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ABSTRACT

The report presents the findings of a statewide study of secondary and postsecondary schools in Pennsylvania. The overall objective was to determine the extent to which these institutions were cooperating and sharing programs, faculty, and facilities in the offering of vocational programs. Seven vocational institutional types were surveyed: area vocational technical schools, comprehensive high schools, public community colleges, private junior colleges, nondegree granting proprietary schools, associate degree granting proprietary schools, and senior colleges and universities. Several hundred individual institutions were contracted by mail and/or telephone. Findings indicated that while some cooperative vocational program activities are going on, the potential for such activities is barely tapped. Recommendations for future cooperative programs are offered. Appendixes offer the cover letter, a flow diagram of the study, a questionnaire form, and a listing of the participating institutions. (MW)

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THE
PENNSYLVANIA
STATE
UNIVERSITY
DEPARTMENT
OF
VOCATIONAL
EDUCATION

COOPERATION AND FACILITIES SHARING IN PENNSYLVANIA VOCATIONAL EDUCATION

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VOCATIONAL — TECHNICAL EDUCATION Research Report

MAY, 1974

PREFACE

The findings reported herein are the result of a state-wide study of secondary and post-secondary schools in the Commonwealth. The overall objective was to determine the extent to which these institutions were cooperating and [illegible]s, faculty, and facilities in the offering of vocation[illegible] The kinds of institutions queried include public community colleges, area vocational-technical schools, associate degree granting proprietary schools, non-degree granting proprietary schools, private junior colleges, comprehensive high schools, and senior colleges and universities. Several hundred individual institutions were contacted, either by mail or telephone, or both. The response rate varied from fair to excellent.

The findings indicate that, while a number of cooperating type activities relative to vocational programs are going on, the potential for such endeavors has been barely tapped. It is hoped that the reporting of the present "state of the art" in this regard will provide some inducement for other vocational educators to enter into similar arrangements.

Special thanks is offered to the several graduate assistants, whose names appear with mine, as authors of this report. It was they who so diligently urged the respondents to complete the survey instrument. The results obtained are the basis for the data provided in this report. Finally, special recognition is given to Miss Anna DeSantis for her assistance in preparing the report for publication.

The study was supported by funds from the Bureau of Vocational Education of the Pennsylvania Department of Education and the Department of Vocational Education of The Pennsylvania State University. The investigator assumes full responsibility for the findings reported herein.

Angelo C. Gillie, Sr.

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I

INTRODUCTION

Pennsylvania has a wide range of vocational education delivery systems. The most significant components in these systems, in terms of people served, are comprised of several types of public educational institutions including (as of October, 1973): comprehensive high schools (609), area vocational technical schools (72), community colleges (17 campuses), state colleges (13), and state supported universities (4). In addition, there is a private sector of education which includes independent non-profit and profit making institutions. The independent non-profit group (which includes sectarian and non-sectarian schools) consists of junior colleges (13) and senior colleges and universities (107). The profit making institutions are the non-degree granting proprietary schools (193), of which 103 are trade and 90 are business related types, and those authorized to grant the associate degree (37). Therefore, it is seen that the Commonwealth has a diversity of public and non-public institutions at both the high school and college level that have the capability of providing a rich array of vocational education offerings to state residents. The geographic distribution of those institutions included in the survey are displayed in the Appendices.

Equally diverse are persons who need some form of vocational education at one or more times during their lives. Perhaps as many as 80 percent of state residents will need this kind of educational

assistance at least once (but more likely several times) during their lifetimes. Some of the more identifiable groups are as follows:

1. Secondary school age youngsters (at least 70 percent of the 14 to 18 year olds). Table 1 displays projected secondary school enrollments for 1973 through 1985 (Senier, et al., 1973).
2. High school graduates (25 percent or more of recent high school graduates). Figure 1 displays college enrollments (actual to 1972 and projected from 1973 to 1985), of which a substantial number should enter college vocational programs.
3. Persons preparing for a mid-career change in occupations. This could average a sizable fraction of the total work force, which was almost 4.4 million persons in Pennsylvania in 1969 (Lerner, 1970).
4. In-and-out vocational education for persons needing updating and upgrading of skills (a perennial need of another portion of the work force).
5. Persons entering or actually in retirement.

The above listing is not intended to be all encompassing, but merely representative of the classifications of people who are in need of some kind of vocational education from time to time.

Up to recent times, vocational education was primarily oriented around the business-industrial community and its occupational needs. But as American society in general moved toward increased concern for people and their multi-faceted needs, vocational education began to alter its primary concern from that of the world of work to people-centered needs. This view was expressed clearly in the federal

Table 1

Pennsylvania's Population Ages 5-19 and Secondary Education Enrollments Projections: 1973-1985

Year	Secondary Schools
1973	1,267,700
1974	1,260,600
1975	1,243,400
1976	1,221,400
1977	1,191,300
1978	1,154,200
1979	1,112,600
1980	1,076,600
1981	1,043,300
1982	1,020,600
1983	1,010,000
1984	1,010,000
1985	1,000,000

legislation supporting vocational education, particularly the Vocational Education Act of 1963 (Public Law 88-210) and the Vocational Education Amendments of 1968 (Public Law 90-576). In attempts to facilitate the serving of individuals with vocational education needs, these federal acts provided substantial financial subvention for vocational education. In order to minimize direct federal influence on vocational education matters, the funds were provided to individual states in accordance with a formula which reflected the categories of people deemed most in need of vocational education (similar to those listed in the previous paragraphs in some respects). Each state, in turn, entered into a contractual arrangement (in the form of a state plan for vocational education) with the federal government for disbursement of these funds (see Pennsylvania Department of Education,

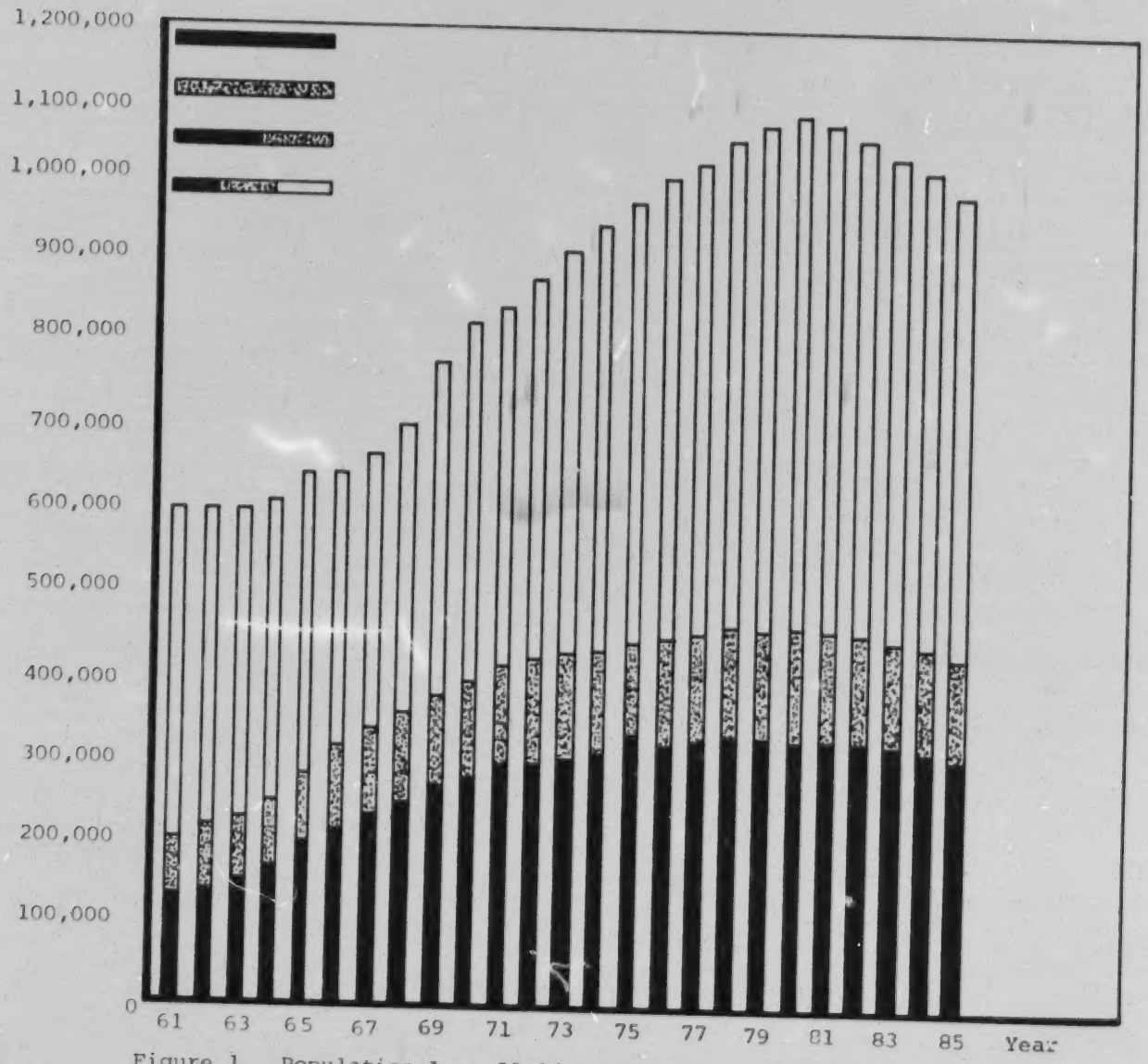

Figure 1. Population Ages 20-24 and Enrollments in Institutions of Higher Education: 1961-1985

1973). Some vocational educators believe this mode of federal subvention, requiring at least a matching allocation from the states in most of the federal acts, has served as a most effective impetus for state and local governments to expand their vocational programs.

The two acts cited above have served as major catalysts in the establishment of more than 2,150 area vocational schools nationally (BAVTE, 1973). Also, a considerable portion of these funds have been directed into vocational programs offered in other kinds of institutions--particularly comprehensive high schools (17,660 out of 29,122 in 1970) [Osso, 1973] and community colleges (most of 1,150 in 1973) [American Association of Community and Junior Colleges, 1973].

The above picturization of the national scene is pretty much replicated in Pennsylvania as indicated in the description of the several vocational education delivery systems presently found in the Commonwealth. The existence of a diversity of institutional types offering vocational education, while indeed troublesome in some respects, does have several noteworthy advantages. Its major strength is the enhanced possibility of serving a greater range of people types--from adolescents to mid-career changers to retirees, from the barely literate to the more intellectual, from persons who prefer working with things and data to those who are most content working with other people. Having such a great range of people and interests to serve virtually mandates a vocational education delivery system that includes all of the kinds of vocational institutions in the Commonwealth. One way in which this diversity can be maximized is by establishment of a network of cooperating institutions throughout the state. Each school would be encouraged to accentuate those vocational programs in which it is

best able to serve by virtue of its location, faculty, facilities, and expertise. It is apparent that there is considerable agreement among vocational educators, legislators, and the public that cooperation is both desirable and necessary. In response to this concern, several actions have taken place lately. First, a state-wide conference (i.e., the Fifth Annual Pennsylvania Conference on Post-Secondary Occupational Education) selected the theme, "Secondary and Post-Secondary Occupational Education: Coordination and Cooperation." for its meeting in October, 1973, at The Pennsylvania State University.* Second, a state-wide study of the "State of the Art" in the manner in which institutional cooperation in vocational education was conducted (also in the Department of Vocational Education at The Pennsylvania State University). The results of this survey are presented in detail in this report.

A. The Study and a Brief Review of the Findings

Seven vocational institutional types in Pennsylvania were surveyed. They were: area vocational technical schools, comprehensive high schools, public community colleges, private junior colleges, non-degree granting proprietary schools, associate degree granting proprietary schools, and senior colleges and universities. A portion of the survey was conducted via telephone interviews and the remainder by mail questionnaires. The telephone inquiry incorporated the identical questions found in the written questionnaire (see Appendix C). The data

*A monograph, "The Fifth Annual Pennsylvania Conference on Post-Secondary Occupational Education," published by the Center for the Study of Higher Education at The Pennsylvania State University describes this conference and will be available in September, 1974.

gathering part of the effort began in mid-October, shortly after the completion of the Fifth Annual Conference described previously (with a brief pre-test of the survey conducted the preceding summer) and was completed in early 1974. Although there was some reluctance on the part of a few to provide the information requested, most of the respondents viewed the study positively and asked to be provided a copy of the results.

B. The Community College

The geographic location of Pennsylvania's community colleges is displayed in Appendix D. Seventeen community college campuses were surveyed. Responses were obtained from all of them. It was found that 42 different vocational programs were in actual operation in which they were cooperating with other institutions. Four other kinds of vocational programs were in the proposed stage, and the colleges were prepared to enter into cooperative arrangements with other schools or institutions. The grand totals included 60 cooperative programs in actual operation (an average of 3.5 per campus) and 18 cooperative programs in the planning stage (an average of one per campus). The distribution by program and community college is displayed in Chart 1.0. A more refined breakdown by program, community college, and the kind of institution with which they were cooperating is displayed in Chart 1.A for health related curricula, Chart 1.B for trade and technology programs and Chart 1.C for other curricula.

There were a total of 24 cooperative programs with hospitals and 23 with area vocational schools which together made up 47 of the 60 cooperative programs presently in operation. The remaining 13 ongoing

Chart 1.0

Community College Course Offerings in Cooperation with Other Educational Institutions

Key:
X Have
O Proposed

	Secretary Tech.	Build. Const. Tech.	Accounting	Associate Degree Nursing	Nursing LPN	Nursing RN	Anesthesiology	Emergency Medical Tech.	Dietary Technician	Criminology	Professional Pilot	Hotel & Restaurant	Inhalation Therapy	Nuclear Medical Technician	Medical Lab. Technician	Machine Shop Practice	Occupational Therapy	Drafting Technology	Electrical Technology	Civil Technology	Operating Room Technician	Plumbing and Heating	Construct Elect.	X-Ray	Dental Assistant	Data Processing (Comp. Sc.)	Machine Design	Architectural Design Tech.	Graphic Arts	Welding	Health Assistant	Radiology Technology	Ind. Chemistry	Chem. Lab. Technology	Auto. Motorcycle Repair	Environmental Control	Interior Design	Prison Prog.	High School Students	Aircraft Maintenance	Aircraft Welding	Common Instru. Ground School	Mental Health Tech.	Diesel Service Tech.	Heating & Air Conditioning	Retail Marketing
Allegh. A						X	OX	OX	X				O	O																																
Allegh. B.		X	X	X															X							X				X												X	X			
Allegh. N.		X			X						X																																		
Allegh. S.																																	O	O												
Bucks					X	X					X																																		
CC of Beaver			X	X								X	X																		O														
CC of Delaware				X																																									
CC of Phila.																																	O												
Harrisburg					X									X	X																		O	O											
Lehigh																X	X	X			X	X																								
Luzerne																								X	X																				
Montgomery					X	X													X							X	X	X																	
Northumberland					X	X												O																											
Reading					O																								X	X															
Westmoreland			X	X																	X			X	X					X	X													
Williamsport					X																																								
Butler					O					X																																			

Total Number in Pennsylvania: 17
Total Number in Sample: 17
Number of Respondents: 17

Number with Cooperating Programs: 13
Programs in Planning Stage: 13
Number Sharing Facilities: 10

Chart 1.A

List of Courses--Health

Course	Butler CCC	Allegheny CC		Beaver CC	Dela-ware	Harrisburg ACC	Montgomery CCC	Northampton CACC	West-moreland ACC	Williams-port
		Alleg	NS							
Assoc. Degree Nursing	0			6	6	6			6	0
Nursing LPN	0			6				6	6	6
Nursing RN	0	6						6		
Anesthesiology		6								
Emergency Med. Tech.		7,0								
Inhalation Therapy		0,6			6					
Medical Lab. Tech.						6				
Nuclear Med. Tech.		0,6				6				
X-Ray Technician							6			
Dental Assistant							6			6
Health Assistant										6
Physiology Tech.					0					6
Anesthesiology Tech.		6,0								6
Operating Room Tech.										
Respiratory Therapy						0				
Mental Health Tech.		6								

Key: 0 = Proposed (No final plans yet)
6 = Hospital facilities used (in operation)
7 = County police and fire academy used (in operation)

Chart 1.B

Trade and Technologies

Course	Allegheny North	Bucks	Harrisburg	Lehigh	Luzerne	Montgomery	Northampton	Westmoreland
Architecture Des. Tech.							1	
Automotive Technology	1		0	0				
Building Constr. Tech.	1							
Chemical Lab. Technology		0						
Civic Technology				1				
Company Apprenticeship						4		
Construction Elect.					1			
Drafting Tech.				1			0,1	
Electrical Tech.				1			1	
Environmental Control				0,1				
Graphic Arts							1	
Heating and Air Cond.	1							
Industrial Chemistry		0						
Machine Design							1	
Machine Shop				1				
Plumbing and Heating				0,1	1		0	
Welding	1							1

Key: 0 = Proposed
1 = AVTS
4 = Outside Resources (Misc.)

Chart 1.C

Other Instructional Programs

Course	Allegheny North	Beaver	Butler	Delaware	Luzerne	Montgomery	Northampton	Williamsport
Accounting Systems Tech.	1							
Banking						4		
Career Secretary	1							
Data Process. (Comp.Sci.)	1						1	5
Hotel & Restaurant				1				
Insurance Brokers						4		
Interior Design					0			
Police						4		
Prof. Pilot		3						
Retail Marketing	1							
Waste Treatment						4		

Key: 0 = Proposed
1 = AVTS
2 = University, College, or Community College
3 = Airport
4 = Outside Sources (Misc.)
5 = Taught at prison

cooperative programs involved universities or senior colleges, airports, prisons, a county police and fire academy and other outside sources.

Additional details are provided in Section III.

C. The Area Vocational Technical School

The geographic distribution of Pennsylvania's area vocational technical schools is displayed in Appendix E. There were 72 area vocational technical schools in the Commonwealth in October, 1973. Of that number, 54 responded to the questionnaire. Seventeen of these institutions were already involved with cooperative programs or were in the planning stages. These schools were offering a total of 29 programs in cooperation with other institutions (an average of 1.7 per participating school), and there were 14 other cooperative programs in the proposed stage (an average of about one per participating school). The distribution of these programs by institution and curriculum type is displayed in Charts 2A, 2B, and 2C.

It should be pointed out that the area vocational technical schools in the Commonwealth are already closely cooperating with one or more comprehensive school districts in the offering of vocational programs. The four most important modes of AVTS operation are: full-time (10), half-day turn-around (53), two-week turn-around (6), three-week turn-around (4). It is obvious that such arrangements required the closest cooperation between AVTS's and various school districts. The area vocational technical schools have been cooperating institutions from the very onset of their operations and such endeavors are not considered unusual by them. Considering their previous experiences in the area of cooperation with one or more "sending"

Key:

Schools with active cooperative programs (X): 19 (36 programs)
Schools with cooperative programs in planning stage: (0): 4 (22 programs)
Schools with active & proposed cooperative programs: 8

Chart 2A: AVTS's with Active and Proposed Cooperative-Facilities Sharing Programs

No.		Agriculture	Apprentice Train.	Audio-Visual	Automotive	Building Trades	Business Manage.	Civil Technology	College Cr. Courses	Data Processing	Dental Programs	Distributive Ed.	Drafting	Electronics	Electrical Trades	Environmental Trd.	Fashion Industries	Fire Training	Food Service	Foundry Practice	G.E.D.	Health Services	Heating & Air Cond.	Horticulture	Industrial Tech.	Instrumentation	Mechanical Tech.	Machine Design	Maintenance Tech.	Metallurgy	Mining Management	Plumbing	Practical Nursing	Special Education	Teacher Cert.	Technical Programs	Vital	Welding
1	Admiral Peary						0																							0							
2	Altoona																								0	X											
3	A. W. Beattie											0																									
4	Bethlehem					X	0				0			0									0														
5	Central Chester																														X						
6	Clearfield																				X											X					
7	Columbia-Montour							0																													
8	Crawford																			X		X										X					
9	Cumberland-Perry						0															X															0
10	Delaware (Marple)										X								X																		
11	Delaware (Media)										X																							0		X	
12	Eastern Montgomery																						0												0		
13	Eastern Northhampton				X	X																										X					
14	Erie																					X						0									
15	Erie County																	0	0			X															
16	Fayette																															X					
17	Greater Johnstown							X					X																X								
18	Lehigh					0			X	X	X				X	0	0	X		X						X		0									
19	Lenape																																	X			
20	Northumberland		0								X																										
21	Somerset																				X																
22	Wilkes-Barre			X											X																X						
23	York																															X					
	Active:		0	1	1	2	0	0	2	1	2	2	0	1	1	1	0	1	0	2	1	1	5	0	0	0	1	1	0	0	1	0	1	6	1	0	0	1	0
	Proposed:		1	0	0	1	2	1	0	1	1	1	0	1	1	0	1	1	1	0	0	0	1	1	1	0	0	1	1	0	1	0	0	0	1	1	0	1

Legend: top number = student
bottom number = faculty
no number = figures were not made available to investigator

Chart 2B. Faculty and Students Participating in the Cooperative--Facilities Sharing Program

	Agriculture	Apprentice Training	Audio-Visual	Automotive	Building Trades	Business Management	Civil Technology	College Credit Courses	Data Processing	Dental Programs	Distributive Education	Drafting	Electronics	Electrical Trades	Environmental Trades	Fashion Industries	Fire Training	Food Service	Foundry Practice	G.E.D.	Health Services	Heating, Ventillation & Air Conditioning	Horticulture	Industrial Technology	Instrumentation	Mechanical Technology	Machine Design	Maintenance Technology	Metallurgy	Mining Management	Plumbing	Practical Nursing	Special Education	Teacher Certification	Technical Programs	Vital	Welding
Admiral Peary																																				
Altoona																									24 13											
A. W. Beattie																																				
Bethlehem				20 4																																
Central Chester																															36 4					
Clearfield																					20 1										36 1					
Columbia - Montour																																				
Crawford																			18 1		12 6										30 4					
Cumberland - Perry																					40 3															
Delaware (Marple)										25 3								50 1																		
Delaware (Media)										30 4																									15 4	
Eastern Montgomery																																				
Eastern Northampton			22 1	32 1																											40 x					
Erie																						94 8														
Erie County																					15 1															
Fayette																															40 4					
Greater Johnstown*							x x					x x																x x								
Lehigh								25 10																												
Lenape																																16 7				
Northumberland									68 3																											
Somerset																				20 2																
Wilkes-Barre		20 5												15 1																15 1						
York																															70 5					
Totals - Students		20	22	52			x	25	68	55		x		15				50	18	20	290				24				x	15	252	16			15	
Totals - Faculty		5	1	5			x	10	3	7		x		1				1	1	2	19½				13				x	1	18	7			4	

Home: X
Away: (X)
Joint: 0
N/A: [0]

No.								
1	Admiral Peary	[0]						
2	Altoona	X						
3	A. W. Beattie	[0]						
4	Bethlehem	0						
5	Central Chester	X						
6	Clearfield	X	X					
7	Columbia-Montour	[0]						
8	Crawford	(X)	(X)	(X)				
9	Cumberland-Perry	X						
10	Delaware (Marple)	X	0					
11	Delaware (Media)	0	(X)					
12	Eastern Montgomery	[0]						
13	Eastern Northhampton	X	X	X				
14	Erie	X						
15	Erie County	(X)						
16	Fayette	X						
17	Greater Johnstown	(X)	(X)	(X)				
18	Lehigh	0	0	0	0	0	0	0
19	Lenape	0						
20	Northumberland	(X)						
21	Somerset	(X)						
22	Wilkes-Barre	0	0	0				
23	York	0						

Chart 2C

Place in Which Cooperative-Facilities
Sharing Program Was Initiated

schools, the area vocational technical schools along with the community colleges (with their well-known objective of serving needs of people in the community), can easily become the major focal point of the cooperative offering of vocational programs.

Additional details are provided in Section IV.

D. Associate Degree Awarding Proprietary Schools

There were 37 proprietary schools in Pennsylvania that were authorized to award the associate degree in October, 1973. The geographic distribution of those who share faculty or facilities is displayed in Appendix F. Only one of these schools had an ongoing program in which they were cooperating with another institution. That same school, plus two others, indicated they had cooperative programs under consideration. In total, three associate degree awarding proprietary schools were preparing to become involved with new proposed cooperative programs. All of the proposed cooperative institutions were area vocational technical schools, while five of the proposed cooperative arrangements were with a senior college or university. The programs and institutions are displayed in Chart 3.

Additional details are provided in Section V.

E. Non-Degree Granting Proprietary Schools

The geographic distribution of these 193 institutions is displayed in Appendix G. A total of 141 were included in the survey, and 77 responded to the questionnaire. It should be noted that 14 of the questionnaires were returned by postal authorities as "non-deliverable."

Six of these schools had 12 cooperative programs underway and eight additional cooperative ventures were in the planning stages.

Chart 3

Proprietary Schools Offering the Associate Degree

Programs	Art Institute of Pittsburgh	Dean Inst. of Technology	Pittsburgh Institute of Aeronautics	The Williamson School
Aircraft/Welding			2	
Airframe & Power Plant Review			2	
Aviation Maintenance Tgch.			0,2	
Commercial Art	2			
Graduate Program in Comm. Art	0,2			
Drafting		0,1		
Electrical		0,1		2
Electrical Power Technology				
Metallurgical		0,1		
Welding		0,1		

Key: 0 = Proposed
1 = AVTS (Coop. Institution)
2 = University, Community College, College (Coop. Institution)

Total No. in Pennsylvania: 37
Total No. in Sample: 37
Number of Respondents: 37
Number with Cooperating Programs: 4

Programs in Planning Stage: 4
Number Sharing Facilities: 6

The ccoperating institution type for all but one of these programs (both in effect and proposed) was the area vocational technical school. The other program in the proposed stage was an in-prison program.

The institutions involved and the kinds of ongoing and proposed cooperative programs are displayed in Chart 4.

Additional details are provided in Section VI.

F. The Private Junior Colleges

The geographic distribucion of the 13 private junior colleges in Pennsylvania are displayed in Appendix H. Eight of the junior colleges were involved with cooperative programs, with 13 in operation and six others in the proposed stages. One of the institutions was closed during the past year or so (Penn Hall). Six of the colleges were sharing facilities as part of the cooperative effort.

The kinds of programs and colleges involved are displayed in Chart 5.

Additional details are provided in Section VII.

G. The Comprehensive High Schools

The comprehensive high schools, 609 in number, are spread throughout the Commonwealth. Of that total, 235 were selected for the survey and responses were obtained from 173. Sixty-three of the comprehensive high schools indicated having cooperative programs in operation or have one or more in the proposed stage. These are displayed in Chart 6. A total of 77 cooperative programs were offered by the comprehensive high schools responding to the questionnaire.

Chart 4

Private Junior Colleges

Course	Ellen Cushing	Harcum	Keystone	Lackawanna	Manor	Mount Aloysius	North-eastern Christian	Pierce	Penna. Jun. Coll. of Medical Arts	Pine-brook	Valley Forge Military Academy	United Wesleyan
Allied Health					0							
Animal Technology		2										
Business Management								4				
Christian Service-Sec.Sci.												2
Continuing Education			2	2								
Criminology						2						
Early Childhood		2										
Floating College						0						
Nursing						6						
Occupational Therapy						6						
Optemetric Assistant												
Para-Medical Assistant									6			
Semester Abroad		2										
Summer Enrichment											4	
Summer Make-up H.S.											4	

Key: 0 = Proposed
2 = University, College, Community College
4 = Outside Sources (Misc.)
6 = Hospital

Total Number of Pennsylvania: 12
Total Number in Sample 12
Number with Cooperative Programs: 8
Programs in Planning Stage: 2
Number Sharing Facilities: 5

Chart 5

Private (Non-Degree) Trade and Business Schools

Program	Breeden School of Welding	Fashion Academy of Pittsburgh	Franklin School of Science & Arts	Pennsylvania Rehabilitation Center	Pittsburgh Technical Institute	Technician Training School	Thompson Institute
Conditioning						0,2	
omotive			8				
cklaying						0,2	
eer Resource Center				0,1			
tal Assistant			2				
ctricity						0,2	
ineering Review					2		
Prison Program (Welding)	0,5						
urance					2		
ical Assistant			8				
ical Secretary						0,2	6
ical Technician			6				
ot Occupational Program for Slow Learners							
ctical Shop Experience for Engineering Technicians							
tile Analysis (Mini-Course)		0					
ding						0,2	
ay Technician			6				

Key: 0 = Proposed
1 = AVTS
2 = University, College, or Community College
5 = Taught at prison
6 = Hospital facility
8 = Private technical, trade, or business school

Total Number in Pennsylvania:	193	Non-deliverable:	14
Total Number in Sample:	141	Number with cooperative programs:	6
Number of Respondents:	77	Programs in planning stage:	4
Institutions Closed:	7	Number sharing facilities:	4

Chart 6

Comprehensive High Schools

Program	Existing Number of Programs	Proposed Number of Programs
Health Field		
Candy Stripes	1	
Health Assistant	3	
Medical Assistant	1	
Nurses Aid	1	
Technical Training		
Appliance Repair	2	
Auto Body Repair	3	
Auto Mechanics	2	
Business Data Processing	1	
Cosmetology	3	
Data Processing	4	
Diesel Mechanics	1	
Diversified Occupations	5	
Electronic Science	1	
Industrial Electronics	1	
Machine Shop	4	
Office Machines	1	
Radio/TV	1	
Scientific Data Processing	1	
Vocational Agriculture	1	
Building Construction		
Air Conditioning & Heating	1	
Building Maintenance	3	
Carpentry	3	
Drafting and Design Tech.	3	
Electronics	1	
Electrical Occupations	3	
Masonary	3	
Millwork and Cabinet Making	2	
Plumbing and Heating	1	
Sheet Metal	1	
Welding	3	
Art Allied Fields		
Art	1	
Commercial Art	3	
Graphic Arts	4	
Floriculture	2	
Horticulture	1	
Industrial Arts	1	
Painting	2	

Chart 6 (continued)

Program	Existing Number of Programs	Proposed Number of Programs
Pattern Making	1	
Textiles	2	
Other Educational Programs		
Adult Education	1	
Advanced Education	11	1
Alternative School Project	1	
Audio-Visual Tech. Programs	1	
AVTS	46	1
Business Management	2	
Continuing Education	4	
Cooperative Education	7	
Distributive Education	2	
Driver Education	3	
Early Admissions	3	
E.S.E.A. Title I	1	
Food Preparation (Home Ec.)	2	
Food Trades	2	
Gifted	5	
Handicapped Program	1	
In-Service Programs	1	
Library Internship	1	
Material Handling	1	
Office Practices	2	
Paired School	1	
Pre-Vocational Guidance		1
Special Education	5	
Student Exchange	1	
Student Teaching	6	
Student Volunteer Program		1
Teacher's Aid	1	
Technical Studies	1	
Training Retarded	1	
Urban Career Ed. Program	1	
Vocational Technician	4	

Total Number in Pennsylvania: 712
Total Number in Sample: 235
Number of Respondents: 170
Number with Cooperative Programs: 72
Number in Planning Stage: 5

It should be noted that some of the cooperative programs claimed by the comprehensive high schools are with the area vocational technical schools and do not represent new cooperative efforts sought by the high school. Therefore, the figures for this part of the survey are not as firmly established as was the case with the other five kinds of institutions examined.

Additional details are provided in Section VIII.

H. The Senior Colleges and Universities

The four state-related universities encompassing a total of 30 campuses were contacted. The state-aided colleges and universities comprised of thirteen institutions were also included in this category. Fifty-two private universities and colleges were also contacted. A total of 95 campuses in this category received questionnaires. Responses were obtained from 52 (about 55 percent of the total) and most of these indicated very little or no activity of a cooperative-facilities sharing nature in the area of vocational education. A considerable number did indicate that they were engaging in such activities in areas other than vocational education programs. This appears to be a logical finding in light of the fact that senior colleges and universities in the Commonwealth are not heavily involved with vocational programs anyway. The geographic distribution and listing of these senior colleges and universities are included in Appendix J and are discussed in more detail in Section IX.

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II

HISTORY AND BACKGROUND

by
John P. Hutchinson*

A. Introduction

There has been little published in the area of cooperative projects or consortium arrangements between proprietary, technical or trade schools, and other educational institutions. However, the past few years have seen increasing literature in the area of public and parochial, elementary and secondary school cooperative ventures. The area of higher education is a different story. There are a number of consortium arrangements in higher education that have been operating over 20 years and many more have been organized in the past five to ten years.

This section will attempt to review some of the major cooperative efforts that presently exist between major types of educational institutions. In addition, the purposes of consortium efforts and the reasons for the recent renewal of interest in this area will be explored.

The relative abundance of information available concerning cooperative ventures in higher education as compared to efforts at other levels of education makes it necessary to devote slightly more

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attention to this level. It is fair to say, however, that nearly all of the purposes for entering cooperative arrangements and reasons for the move towards this goal are easily generalizable to other institutional types and levels.

B. Forms of Consortia

According to Solwak (1968), there are two major forms of cooperation between institutions in higher education. The first is the interstate compact type where action by state legislatures is necessary. The second form is the voluntary association which develops from the initiative of the member institutions. The interstate compact type is exhibited in the Southern Regional Education Board (SREB), the Western Interstate Commission for Higher Education (WICHE), and the New England Board of Higher Education (NEBHE). The voluntary type includes such organizations as the Consortium of Universities, the Committee on Institutional Cooperation (CIC), and the Five Colleges Organization.

C. Consortia in Higher Education

Cooperation between educational institutions is not new. According to Coss (1968), several small liberal arts colleges in Claremont, California, cooperated in eliminating unnecessary course duplications in 1925. In 1943, Harvard and Radcliffe arranged a close association of their undergraduate programs which would permit students at Radcliffe to attend classes on the Harvard campus. This was later extended to graduate programs in 1961. Although Radcliffe maintains autonomy over admissions, financial aid, housing and recreation for their students, a graduate of Radcliffe receives a Harvard degree.

The beginning of the larger collegiate cooperative efforts was initiated in 1953. The Western Interstate Commission for Higher Education (WICHE) was formed as a public agency for the purpose of assisting students in medicine, dentistry and veterinary medicine to enter school in other member states without paying out-of-state tuition. This program has also been extended to other non-medical related fields (Coss, 1968).

In 1958, the Committee on Institutional Cooperation (CIC) was established. Its members include the big 10 universities and the University of Chicago. This organization maintains several programs. Coss has described two major efforts by the CIC. The traveling scholar program allows students to move to other member campuses for courses not available at the home school. Students remain registered and pay tuition at their home institution. A second program is CIC's Far Eastern Language Institute. Faculty and students studying Chinese and Japanese rotate from university to university on a yearly basis as a department (Coss, 1968).

The Associated Colleges of the Midwest include ten liberal arts schools in four states. Initial projects of this group include research cooperation for the study of educational programs and a nuclear science research project, both of which would be beyond the financial scope of any one institution (Steward, 1960). This consortium has since developed a single application form for the ten cooperating schools. An agreement between these institutions allows an applicant to pay only one application fee to be considered for enrollment to all ten schools (Coss, 1968).

The Consortium of Universities in Washington, D.C., was instituted in 1964. The efforts of this group have resulted in a coordinated registration and attendance policy for all five universities including American, Catholic, Harvard, Georgetown, and George Washington. If a student is unable to elect a particular course at his home institution, it is possible to register for the course at one of the cooperating institutions (Coss, 1968).

The Southern Regional Education Board (SREB) is a higher education coordinating agency serving schools in 15 southern states. In the Northeast, the New England Board of Higher Education (NEBHE) coordinates some of the efforts of institutions in six states (Salwak, 1968). Both of these agencies are examples of the interstate compact type of coordination unit previously mentioned.

Also in New England is the Five Colleges Organization in Massachusetts. This voluntary group was initiated in 1956 with Amherst, Smith, Mt. Holyoke, and the University of Massachusetts as member institutions. In 1971 they were joined by Hampshire College (Bright, 1971). These are just a few of the many similar higher education consortium groups throughout the United States attempting to help themselves and their student clientel through cooperative efforts.

D. Consortia of Other Educational Institutions

There are cooperative arrangements at other levels in addition to those in higher education. On the elementary-secondary level, efforts similar to those in higher education exist. A program that is very much like the interstate compact type in the previous section is the Appalachia Educational Laboratory (AEL). This program was established

through Title III funds of the Elementary and Secondary Education Act of 1965. The AEL serves the Appalachia sections of six states. The efforts of the AEL have led to the establishment of uniform salary schedules, tenure, length of class period and school days, and approaches to in-service education. The AEL has also initiated the Educational Cooperative which will begin with four programs to be field tested. These programs include Vocational Guidance, Appalachia-Focused Language, In-Service Education, and Early Childhood Education (Willits, 1968).

Heesacker (1970), in an extensive report on small public school consortia, described the findings of a survey by the Northwestern Regional Educational Laboratory in Portland, Oregon, in 1968. This national survey was instituted to determined the "state of the art" in consortia among small public schools. Heesacker reported several major programs from this survey. One program described was the Catskill Area School Study Council located in upstate New York. The council serves 30 schools and coordinates efforts for in-service training for teachers, institutes for school board members, and Saturday seminars at the State University of New York College in Oneonta for high school students. This program has been in existence since 1958.

The Rocky Mountain Area Project was also initiated in 1958 with the help of the Ford Foundation. The project started as a cooperative agency encompassing all of Colorado, but by 1962 had grown to include the State Departments of Education from five states--Utah, Colorado, Arizona, New Mexico, and Nevada. The name of the organization was also changed at that time to the Western States Small Schools Project. In one program reported by this project, 14 schools are coordinated to

help provide integrated career selection and development programs. According to Heesacker (1970), "In most of the schools, occupational information is presented in a special course, and a career selection agent is assigned to each school to help students make realistic career choices" (p. 20).

A third program reported by Heesacker is called the Heart of Georgia Shared Services Project at Eastman, Georgia. One of the major purposes of this project is to coordinate information on vocational and educational opportunities. Through the use of outside resource personnel, the regular academic teacher and educational television, this project coordinates an effort to help sixth grade students examine and compare a wide range of occupations.

This gives some idea of the cooperative efforts which are possible by coordinating several or many school districts. Most of the above projects are devoted to specialized programs, but many other arrangements are possible. Rice (1962) discusses shared facilities between public and parochial schools. Examples of such programs in Ohio were cited where lunch services, recreation facilities and some courses were shared. Industrial Arts shop classes and science laboratory classes were the academic courses most shared. Recreation facilities shared included gymnasium and athletic fields.

A cooperative program of a slightly different nature is described by Katz (1973) in a State of Illinois Advisory Council on Vocational Education report. Katz briefly describes a kind of joint venture using Supervised Correspondence Study (SCS) . . ."in which an independent private correspondence school or a university extension division supplies correspondence courses to high schools for the following

purposes: 1) for make-up work; 2) for home-bound students; 3) for accelerated students; or 4) for vocational interests" (p. 159). According to Katz, the American School of Chicago in 1970 had a SCS enrollment of thousands of students in 835 high schools in 40 states.

E. Purposes of Cooperative Arrangements

What are the reasons educational institutions enter consortium arrangements? The terms consortia, cooperation, and coordination are often used interchangeably to describe joint educational efforts. These terms imply some kind of a mutually beneficial agreement. Swegan (1972) sees the reasons leading to consortium arrangements in seven categories. These include:

1. to exchange information faculty, and/or administration;
2. to provide for unified public relations;
3. to make available specialized or unique programs to member institutions;
4. to make possible more advanced course offerings by joint appointments of faculty members;
5. to pool high cost facilities and equipment;
6. to effect economics through mass-purchasing; and
7. to pool financial resources through centralized corporate solicitation effort.

Although these purposes were directed at higher education consortia, all but possibly the last are directly generalizable to all levels of education and nearly all types of educational institutions.

A Northwest Laboratory survey in 1968 listed reasons why schools entered into cooperative agreements. These reasons included programs

for: reading improvement, migrant youth, early childhood education, guidance services, mobil vocational education, vocational counseling, educational television, standardized testing, media and materials preparation, personnel recruitment, computer utilization, cooperative purchasing, bus scheduling, sharing of administrative staff and others (Shared Services and Cooperatives, 1972).

Some of these purposes may be applied only to elementary or secondary cooperative arrangements but most are nearly identical to those proposed by Salwak for several University consortiums. Salwak (1968) describes five purposes for which consortiums of higher education institutions are formed:

1. to foster a pooling of specialized instructional, research and library facilities;
2. to institute arrangements for student exchanges in order to increase the availability of specialized programs;
3. to provide joint offerings in certain complex, low-enrollment subject matter areas;
4. to provide a common front in seeking foundation or government grants and for influencing public policy in higher education; and
5. to promote information exchange on aspects of instruction, research, and administration.

The common elements of these sources are apparent. Most of the reasons for entering consortium arrangements apply to all levels of education and all types of institutions.

F. The Move Towards Consortia

It has been established that cooperative ventures in education are not new. What, then, are the reasons for increased interest in and move towards consortia?

Title III of the Elementary and Secondary Act of 1965 encourages shared services and arrangements by permitting grants to combinations of school districts as well as to a single system. This may be one of the major encouragements to consortia in the public schools. In addition, there is pressure for educational change and for the implementation of innovative teaching methods, programs and instructional media. This has encouraged schools of all levels to move towards cooperative arrangements to make these efforts economically feasible (Shared Services and Cooperatives, 1971).

Other factors, in addition to those mentioned above, are clearly influencing the move towards consortia. From the early fifties until the early seventies enrollments were steadily increasing. From primary grades to graduate education, schools expanded their facilities and hired additional personnel to cope with crowded classrooms. Then, according to Garland Parker (1973), the trend suddenly changed: "It became apparent in early 1972 that freshman applications to most colleges were well below those of the same dates for the previous year and that most four-year collegiate level institutions were in trouble" (p. 314). The result of expansion and increased staff had left the colleges in a difficult position. An all-out recruitment campaign was launched by most post-secondary institutions to raise enrollments, but the problem goes deeper. Parker goes on to say:

> Since the academic climate of the mid and later 1970's suggests no surcease, the admissions scene in the years ahead promises to be one of incredibly keen competition for students among institutions of all levels but especially the four-year schools" (p. 314).

Parker suggests that the good years of plenty are over for most educational institutions. Many schools that expanded during the years of ample student populations are now facing serious financial difficulties because of generally declining enrollments.

G. Summary

There has been considerably more written about cooperative ventures at the higher education level than at the elementary and secondary levels. In 1953, the Western Interstate Commission for Higher education was established as a public agency to coordinate admissions to professional programs in member states. The Committee on Institutional Cooperation was initiated between the big 10 universities and the University of Chicago. This organization coordinates activities between member institutions. Other organizations involved in coordinating and facilitating cooperation between institutions of higher learning include: The Consortium of Universities in Washington, D.C.; the Southern Regional Education Board; the New England Board of Higher Education and Five Colleges. Many more organizations of this type exist.

At the public education level, the Elementary and Secondary Education Act of 1965 has encouraged cooperative efforts. Some school districts are linking-up in an attempt to provide special programs and services otherwise beyond the financial capability of one district.

Programs and services in vocational guidance, vocational education, special education, instructional media and cooperative purchasing are examples.

At all levels of education, consortia seems to provide an opportunity for the expansion of curriculum into specialized, expensive areas of education. Vocational education facilities, equipment and personnel are often out of the financial reach of one institution or school district, and even those that can afford such programs find that limited enrollments cannot justify such expenditures. Also, justification is often lacking because of the limited hours per week such facilities are operative. Combinations of districts or institutions, utilizing such facilities on a shared-time or simultaneous arrangement, could justify financing such programs.

Cooperation between educational institutions can lead to other mutually beneficial outcomes. Specialized institutions can enter agreements with general education oriented institutions with the result of increased enrollments for both. Faculty and staff exchanges can lead to increased articulation between institutions as well as serve the intended primary function. Cooperative ventures in education are an "idea whose time has come."

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III

THE PUBLIC COMMUNITY COLLEGES

by
Charles Simcox*

Inherent in its name is the concern of this institution to be involved in its community. Repeatedly, the literature describing its function depicts it metaphorically either as a bridge between the classroom and the community or as an amorphous structure stretching throughout a city, integrating its campus with available neighborhood facilities. Again and again, the concept of decentralization surfaces in discussions regarding its physical plant. Emerging from the various descriptions of this type of institution is a belief that vital to this particular mission is the regular employment of community resources. Thus, it would seem that cooperative educational ventures with other institutions would be routine for the community college. However, a step from the writings of what should be to the studies of what is reveals it as neatly buttressed against the "outside" world as those institutions of higher learning it has, in its search for legitimacy, sought to imitate.

Though on a national scale the community college concept spans the twentieth century, it has been manifested in Pennsylvania for less than a single decade. Of the 17 community colleges now operating within the Commonwealth, three opened as recently as 1971, and only four date

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back as far as 1965. All have organized and developed with the assistance of limited guidelines drawn up without the benefit of an approved state master plan for higher education. In their struggle for identity, most of these institutions have patterned their programs on those existing in the liberal arts colleges. Of the few technically oriented programs that have been instituted, the majority were structured and staffed by administrators educated outside the field of vocational education. It is therefore not surprising that little cooperation exists either between the community colleges and other educational institutions or between the community colleges and the business-industrial complex.

A map depicting the geographic location of the Commonwealth community colleges is included in Appendix D, as is a listing of their addresses. An examination of their physical relationship to other educational institutions reveals a real potential for joint programs and faculty sharing. In addition, most, if not all of these colleges, are situated near business and industrial centers. Further, their campuses are located within reasonable commuting distances of moderate-to-large urban areas.

Each of the 17 community colleges was surveyed for this study. Responses were received from all of them. In every case, the survey instrument was the "Questionnaire on Joint Programs and Faculty Sharing Among Proprietary Schools, Community Colleges, Area Vocational Technical Schools, and Other Educational Institutions," (cited hereafter as the "Questionnaire"). In addition to the correspondence involved with the "Questionnaire," a number of colleges were contacted by telephone with reference to questions which resulted in ambiguous replies. The "Questionnaire" is included in Appendix C.

Four of the 17 community colleges are not, at this writing, engaged in joint programs with other institutions. However, all four indicate that they are currently planning to initiate one or more such programs in the near future. The remaining 13 community colleges cite participating in 69 cooperative programs. In addition, they report 22 programs in the planning stage. Though the number of active and proposed cooperative ventures is admittedly small, it represents a wide variety of occupational training. All programs along with their sponsoring institutions are listed in Section I of this report.

An examination of this listing shows a total of 91 active and proposed cooperative programs, or an average of 5.35 programs per campus. In all, 50 different curricula are identified, 15 of which are in the area of allied health. Of these, nursing is the most popular. Throughout the community college system there are 13 active and two proposed jointly operated programs in nursing. Ten colleges cooperate with one or more local hospitals in training either registered or practical nurses. Next in popularity is automotive repair (six programs) followed by electrical technology (four programs, data processing, heating and air conditioning, inhalation therapy, and welding (three programs each). Eleven other programs are offered at two different colleges, while 31 appear just once.

As would be expected, the most frequently identified cooperating institution is the hospital. The 15 allied health programs utilize 33 hospitals throughout the State. Next in frequency is the area vocational technical school with 11 institutions represented. A variety of institutions of higher education comprise a group of six. Business and industry likewise include six different organizations.

Other cooperating institutions reported in the survey are airports, comprehensive high schools, police academies, and prisons. Three community colleges in the process of developing joint programs have yet to specify cooperating institutions. The total number identified stands at 64.

Enrollment in the 69 programs totals 4,172. This figure represents a wide range (five to 400) and considerable variety. It is therefore difficult to describe the average program in terms of size. The mean is approximately 60 while the median is 40. Both the largest and the smallest programs are found at the Allegheny Campus of the Community College of Allegheny County. The emergency medical technology program shared with the Allegheny County Police and Fire Academy currently enrolls 400 students, while the medical technology and the engineer technology programs shared with the Parkway West Technical School each enroll five.

Concerning the initiation of active cooperative programs, 38 were generated by the community colleges. Twenty-four other programs were the result of joint efforts while seven were proposed by outside institutions.

Another area of cooperative endeavor reported by a number of colleges was the joint use of facilities. Laboratories, shops and classrooms proved most popular for this purpose. Ten community colleges indicated cooperative use of laboratories and shops, and either stated that they shared classrooms. With regard to work practicums and internships, five institutions reported cooperative arrangements. Only one college noted that it shared its assembly area.

Though perhaps the Commonwealth community colleges do practice an open-door admissions policy, such is not generally the case when it comes to cooperative programs. Of the 13 institutions with active programs, 11 require a high school diploma, although one stipulated that the requirement applied only to nursing programs. Five colleges indicated the use of either aptitude or achievement tests. Six stated that they used other admissions criteria. A test to determine emotional problems in nursing applicants and the mandatory interview were mentioned.

As might be expected, the cooperative programs in all of the community colleges culminate in a degree for the graduates. With the exception of Butler County Community College, degrees are awarded by the home institution. Butler County Community College has worked out an arrangement with Indiana University of Pennsylvania through which the student may receive an associate degree in Criminology from either institution. Students may also elect to continue toward the baccalaureate degree at Indiana.

IV

THE AREA VOCATIONAL TECHNICAL SCHOOLS

by
Charles Simcox

Cooperative ventures are not new to the area vocational technical schools of Pennsylvania. Since their inception, the majority have been affiliated in a variety of ways with other institutions in the development and maintenance of most of their programs. Though ten of the area vocational technical schools administer both the occupational and academic course work, three other modes of operation exist. Of these, the most popular is the half-day, turn-around system employed by 53 institutions. This system permits the area vocational technical school to concentrate on the occupational programs while the sending high school attends to the academic work. Variations of this system include the two other modes of operation: a two-week turn-around program practiced by six institutions and a three-week turn-around program used by four. Clearly, most area vocational technical schools currently are deeply involved in cooperative programs. While these particular programs are not the focus of this study, they do suggest a potential for the area vocational technical school to become a focal point in the cooperative offering of occupational programs.

The geographical distribution of these institutions lends further credibility to predictions of their potential for leadership in joint educational undertakings. As is the case with the Commonwealth's community colleges, most area vocational technical schools are located within a convenient commuting distance of another educational

institution. Obviously, as suggested by the popularity of the various "turn-around" programs mentioned above, a number of secondary schools are sufficiently close to enable daily trips to and from area vocational technical schools. In addition, an examination of the distribution of AVTS's throughout Pennsylvania (Appendix E) reveals that many of the schools are reasonably near to community colleges (Appendix D) and other post-secondary institutions (Appendices F through I) that offer occupational training.

When this study was initiated in October of 1973, there were 72 area vocational technical schools within the Commonwealth. All were contacted and asked to complete an instrument entitled, "Questionnaire on Joint Programs and Faculty Sharing Among Proprietary Schools, Community Colleges, Area Vocational Technical Schools and Other Education Institutions" (cited hereafter as the "Questionnaire"). A copy of this questionnaire is presented in Appendix C.

Fifty-eight (81 percent of the total) responded. Thirty-five reported that they had no joint programs. Nineteen institutions indicated that they were involved in active cooperative programs, and eight of these institutions stated that they had cooperative programs in the planning stage. In addition, four area vocational technical schools with no active programs noted that they hoped to initiate joint programs in the near future.

An examination of the cooperative programs currently offered reveals 36 such programs embracing a diversity of occupational fields (see Chart 2A). The area of health services is the most popular. At present, six institutions are involved with area hospitals in training practical nurses. Two of these schools also cooperate with the

hospitals in the preparation of personnel for related health fields. In addition, three other area vocational technical schools have joint programs for students wishing to enter the various health services other than nursing.

Further consideration of the active cooperative programs shows that only five of the remaining 25 are offered by two schools. These are Automotive, Civil Technology, Data Processing, Dental Programs, and Food Service. The other 15 programs appear only once.

Enrollment (see Chart 2B) in the 36 active cooperative programs total 957. The majority of these students (542) participate in allied health areas. The degree of involvement in the other programs ranges from 15 to 68 students, with an average (mean) enrollment of about 30 students per program.

As would be expected, the largest concentration of faculty participation is in the areas of health services and practical nursing. Schools reported one part-time and 19 full-time faculty members involved in the former area and 18 full-time faculty members in the latter. Faculty involvement in other programs ranges from one to 13. If one considers the programs on an individual basis, it is discovered that there are nine instances in which a single faculty member is involved.

In addition to the active cooperative-facilities sharing programs, there are 22 such programs in the planning stage (see Chart 2A). Of particular interest is the fact that only two institutions reported proposed programs in the identical area. Both Bethlehem and Cumberland-Perry are developing joint programs in the building trades. All other proposed programs appear but once.

A question of considerable interest has to do with which institution initiated each of the cooperative projects. An examination of Chart 2C reveals that of the 36 active programs 11 were generated by an area vocational technical school. Another 15 were the result of cooperative interest. Ten, however, were initiated by an outside institution.

Regarding shared facilities, the survey discovered that 20 of the Commonwealth's 72 area vocational technical schools were involved. Of these, 20 shared classrooms; 20 laboratories and shops; three assembly areas; and 11 shared work practicums or internships.

Little variety was found with respect to admissions criteria. Twelve schools required a high school diploma (or its equivalent) for admission to a cooperative program. Five did not list this as a requirement, and three indicated that such a stipulation was not applicable to their situation. Eleven institutions indicated that they administered aptitude or achievement tests to applicants; eight stated that they did not. One school reported the use of trade competency examinations; another noted that it interviewed all applicants for joint programs.

Though the joint programs discussed in this section each involve the area vocational technical school, it is interesting to note that many of the programs carry college credit. Nine of the 20 schools with active cooperative programs report that their programs lead to either an associate or baccalaureate degree. In addition, eight schools report that their graduates are awarded advanced standing at a number of post-secondary institutions.

V

THE ASSOCIATE DEGREE GRANTING PROPRIETARY SCHOOLS

by
Michael Sherman*

There were 37 schools in Pennsylvania authorized to award the associate degree in October, 1973. Of these schools, only four indicated they had any type of cooperative-facilities programs. One school stated that they had a program in the planning stage. The geographic distribution of these schools is displayed in Appendix F.

Of the four active schools, two were initiators of the sharing programs. A third one was asked to participate in a facility sharing program and the fourth school has such a program in the planning stage.

These four schools exhibited one common goal, to go outside their own institution for fulfillment of certain basic academic needs of their students. Each school is highly specialized, namely programs in Electric Power Technology, Art, Aeronautics, and Construction Technology. These schools are aware of the fact that the specific skills taught at each of the schools are unique to their locations. With the continued decline in enrollments, budgets, and faculty, it becomes clear that duplication of facilities and programs is uneconomical.

These schools have started their sharing endeavors at different times. Williamson started its program in 1966, the Art Institute of Pittsburgh in 1970, The Pittsburgh Institute of Aeronautics in 1973, and

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*Mr. Sherman is a graduate assistant in the Department of Vocational Education and is working toward a doctorate in the Department of Higher Education at The Pennsylvania State University.

the Dean Institute is scheduled to begin its cooperative program efforts in fall 1974.

Some concern has been expressed by the belief that the local community colleges want to be all encompassing in their offerings, thereby making it difficult to establish the cooperative-facilities-faculty sharing efforts considered in this report. The P.I.A. is now in the process of setting up contractural agreements with the local community colleges under the assumption that sharing leads to better education through specialization.

The Williamson School is retrenching for various reasons, and is in the process of determining the feasibility of sharing facilities-faculty-programs with other schools in their region. Mr. Clemens, President of the Williamson School, believes there are various factors to be considered, including convenient travel distances for faculty and students, easy communications between the involved schools, and compatible courses and needs. One president expressed the belief that private schools are the place to experiment with new programs, because he feels they are more flexible than their public counterparts. Another proprietary school administrator stated it will be difficult for private and public schools to enter into cooperative ventures in the sharing of facilities, faculty, and courses. Such efforts can be successful only when both parties really want it to work. Also, when schools share faculty and facilities, there is always lost time in traveling. Scheduling appears to be an obstacle in many cases.

In spite of the recognized difficulties, many of the proprietary school administrators feel that program and faculty sharing must become a reality so as to reduce duplication in programs, and to

inaugurate economics in the offering of vocational programs. Efforts of this type are apparently still largely in the rhetoric stage in most of the United States. There also is some concern about the legality of a public supported school entering into a contractual agreement with a school that operates for profit.

In conclusion, the degree granting proprietary schools displayed a positive reaction towards the facilities-faculty program sharing idea. However, as shown from the actual findings, there is considerably more talk than actual undertakings at this time.

VI

NON-DEGREE GRANTING PROPRIETARY SCHOOLS

by
John Hutchinson

A. Introduction

There are a total of 193 non-degree granting proprietary post-secondary schools in Pennsylvania. A total of 141 institutions were sampled by questionnaire using the sampling technique described in Krejcie and Morgan's article entitled "Determining Sample Size for Research Activities" (1970). A follow-up letter was sent to non-respondents after three weeks. A total of 77 questionnaires (54 percent of the sample) were returned and assessed as usable and 14 (about 10 percent of the sample) questionnaires were returned by postal authorities as "non-deliverable."

Three of the respondents reported a total of eight cooperative programs in progress (Appendix G). The programs presently in progress and those in the proposed stage, along with the cooperating institutions involved with the non-degree proprietary schools are displayed in the introduction section of this report. Appendix G shows the location of the current and proposed cooperative programs of the sample, along with the location of sampled proprietary schools in Pennsylvania.

B. The Cooperative Vocational Programs

The earliest cooperative vocational program in this category was initiated in 1959 by Thompson Institute (Harrisburg). A medical

secretarial program, in cooperation with Polyclinic Hospital, has been in operation since that time. Current enrollment is 25 students.

Pittsburgh Technical Institute reported two programs (Insurance and Engineering Review). These were initiated by The Pennsylvania State University (PSU) in 1973. It was found that PSU rents classroom space from the Technical Institute in order to offer these continuing education programs.

Franklin School of Science and the Arts in Philadelphia is the final institution in this category to report cooperative vocational programs in progress. It was reported that seven cooperative programs are currently being offered, including Medical Technician, X-Ray Technician, two Medical Assistant programs, two Dental Assistant programs, and an Automotive program. The institutions with which Franklin is cooperating include hospitals for Medical Technician and X-Ray programs, Franklin School of Science and the Arts in Chicago (Illinois) for Medical Assistant and Dental Assistant programs, Kansas City Business College for another Medical Assistant program, the University of Pennsylvania for a Dental Assistant program, and Vale Technical Institute in Blairsville (Pennsylvania) for an Automotive program.

C. Planned or Proposed Programs

It was found that four proprietary schools had a total of eight cooperative programs in the planning or proposed stage. Of these, the Technician Training School located in McKees Rocks, Pennsylvania, had five proposed programs and the remaining institutions, the Breeden School of Welding, the Fashion Academy of Pittsburgh, and the Pennsylvanis Rehabilitation Center each had one planned or proposed program.

The Breeden School of Welding in White Hall (Pennsylvania) is planning an in-prison training program with the Lehigh County Prison. This was the only prison program reported by a private school. The Pennsylvania Rehabilitation Center in Johnstown is planning a cooperative program with the Johnstown Area Vocational Technical School for provision of a Career Resource Center. No other information was provided on this consortia. A mini-course in Textile Analysis is being planned by the Fashion Academy of Pittsburgh which is to be offered at St. Mary's of McKees Rocks, a private secondary school.

The Technician Training School is the remaining institution with proposed programs. They reported having five programs under consideration at this time. These programs included Automotive Mechanics, Welding, Electricity, Air Conditioning, and Bricklaying. Efforts to offer these cooperative programs with the North Campus of Allegheny Community College are being explored. The President of the Technical Training School has volunteered to take ten community college students, free of charge, to initiate a pilot program to discover and deal with problems that arise from this cooperative effort.

D. Summary

The non-degree proprietary schools of Pennsylvania have the smallest percentage of cooperative vocational programs of any category investigated in this report. It was found that only 3.9 percent (three) of the 77 responding schools had cooperative vocational programs in the planning or proposed stage. The reasons for this are not clear; however, it was found that at least seven institutions included in this category have closed within the last year.

There are indications that some proprietary schools are suffering from sundry problems. In self-initiated comments on the questionnaire, several respondents reported low enrollments and financial difficulties.

Some non-degree granting proprietary schools will likely remain successful because of their unique offerings and capability for specialization. Many expect to find it advantageous to enter cooperative arrangements with community colleges, private and public educational institutions. Most proprietary schools would welcome increased enrollment and the advantages of consortia. They have much to offer both the student and the perspective cooperating institution. The major issue is to find the ways in which cooperative endeavors of the kinds described in this report can go on between public and proprietary educational institutions.

VII

THE PRIVATE JUNIOR COLLEGES

by
John Hutchinson

A. Introduction

There are 12 private junior colleges in the state of Pennsylvania. In this survey, all were contacted and asked to complete a questionnaire concerning their participation in joint and cooperative programs with other educational institutions. All the junior colleges were contacted by telephone and six of these were sent confirmation questionnaires to gather additional information.

Six junior colleges reported they were currently involved in cooperative vocational programs and five indicated cooperative programs in the proposed or planning stage. It was found that 800 students enrolled in private junior colleges are participating in cooperative ventures. The respondents also indicated that a total of more than 60 faculty members are involved in these programs.

The map pictured in Appendix H illustrates the location of the private junior colleges currently involved in cooperative vocational ventures.

B. The Cooperative Vocational Programs

Most cooperative programs reported by the private junior colleges have only been in existence a short time. However, the Pennsylvania Junior College of Medical Arts reported its cooperative venture with Harrisburg Hospital has been in progress since 1948. This cooperative

vocational program of Para-Medical Assistant serves 52 students and now involves other local hospitals in addition to Harrisburg.

At Mount Aloysius Junior College three cooperative programs including nursing, criminology, and occupational therapy were initiated in 1963, 1965, and 1972 respectively. The nursing program involves about 120 students and the criminology program, 135 students, 75 of which are associate degree candidates. The remaining program, occupational therapy, has been in existence only two years and has a current enrollment of 65 students.

Pierce Junior College reported its cooperative Business Management in Banking program was initiated in 1968 with the assistance of the American Institute of Banking. There are 25 students currently enrolled in this program.

A cooperative arrangement between two junior colleges was initiated in 1971 when Keystone and Lackawana joined forces to offer continuing education programs to over 200 students. These schools are sharing classrooms and shop facilities as well as faculty.

Harcum Junior College in Byrn-Mawr has three cooperative programs in progress. An Animal Technician program was initiated in 1972 by Harcum and the University of Pennsylvania School of Veternary Medicine. One hundred fifty students are currently engaged in this program. The second program was initiated in 1973 with the cooperation of the Franklin Institute for Child Development. This Early Childhood Education program has a current enrollment of 24 students. A non-vocational cooperative study-abroad program was also instituted with Temple University in 1973.

C. Findings

One section of the survey questionnaire was devoted to admissions. It was found that three of the private junior colleges required a high school diploma for admittance to their cooperative programs; one indicated it would accept a general education equivalent; and four colleges did not reply to this question. The diploma or equivalency requirement probably reflects the nursing and health related programs where selection procedures are deemed necessary because of certification examinations.

Two junior colleges indicated aptitude or achievement tests for admission were required for cooperative programs; two others required no such tests; and four did not respond to this question.

Another area of inquiry in the questionnaire was the awarding of credit for these cooperative vocational programs. In four of these programs credit was awarded by both the junior college and the post-secondary degree granting cooperating institutions. In the remaining programs, credit is awarded towards the associate degree at the junior college only, as the cooperating institution was either a hospital or a private school. In addition, two junior colleges, Lackawana and Keystone, offer advanced credit for AVTS experiences.

The initial questionnaire series contained questions regarding the manner in which the cooperating institutions dealt with financial aspects of a joint venture. It was found that the institutions surveyed made little response to these questions and not much of this was interpretable. As a result the section on finances was deleted from subsequent mailings. The reasons for this lack of response are unclear, but it may be concluded that the financial arrangement

between institutions is one of the very difficult phases of the entire cooperative effort. Especially difficult are those transactions between public and private institutions.

D. Planned and Proposed Cooperative Ventures

The survey indicated that four private junior colleges have cooperative programs in the planning or proposed stage. These programs include Allied Health, Optometric Assistant, and Secretarial Science. Chart 5 illustrates these programs and the cooperating institutions.

E. Summary

It appears that the private junior colleges have barely opened the door to cooperative program possibilities. At a time when post-secondary enrollment is leveling off and, in some cases, dropping, the opportunities for additional curricula, facilities and faculty sharing ventures seem more appropriate than ever before. Sharing and cooperative arrangements would permit a tremendous expansion of program offerings at the junior college level without the prohibitive cost of additional specialized facilities, equipment and faculty.

The junior colleges reported, in most cases, that specialized courses were offered at the cooperating institution and the general education and occasionally the classroom-oriented specialization courses were centered at the junior college campus. This seems to indicate that these institutions are using other facilities to offer specialized programs instead of purchasing their own. Many different arrangements seem possible but the outcome is the same--greater program choice and specialization for the student without a large, additional financial outlay for the junior college.

Traditionally, the private junior college has served as a jumping-off point to the four-year college or university. When freshmen entrance requirements were rigorous and competition for acceptance was keen at the four-year school, the private junior college was a way for some students to prove themselves in the academic world. Competition was still keen, but it did provide a proving ground and an opportunity for maturity to take place. The junior college student had the opportunity to make up deficiencies and improve his or her academic record in order to gain transfer admittance to the four-year school.

Because of enrollment decline and financial problems, many of the barriers students once faced in gaining immediate acceptance into baccalaureate programs have been removed. Under these circumstances, a rich vocationally oriented curriculum, provided through cooperative efforts, would seem appropriate for the junior college. Tradition does not change quickly and the self-image of the junior colleges probably cannot adjust to a change of this magnitude overnight. Financial pressure from declining enrollments may, however, speed the process.

VIII

THE COMPREHENSIVE HIGH SCHOOLS

by
Michael Sherman

The 609 comprehensive high schools are spread throughout the Commonwealth. Of that total, 235 were selected for the survey and responses were obtained from 173. Sixty-three of the comprehensive high schools indicated having cooperative programs in operation or have one or more in the proposed stage. These are displayed in Chart 6. This chart displays cooperative programs in the building construction area, the allied art field, and technical training areas. A total of 77 cooperative programs were offered by the comprehensive high schools responding to the questionnaire.

Various programs are currently in operation within the comprehensive high school system. The most prevalent of these is the cooperative program involving the high schools and the area vocational technical schools. In this program a high school student spends one half day taking academic and physical education courses at the high school. The second half of the day is spent at the area vocational technical school taking courses. A scheduling problem arises caused by transportation of the students and the juxtaposition of the individual facilities.

Another program, smaller than the previous one, shares college and university facilities. If the student qualifies academically, he is given the option of taking basic courses at the university during

regular high school hours. This option is usually available during the summer. In some instances, local colleges consider these students as full-time freshmen.

Direct exposure to hospital facilities offers still another route to the high school student. These programs are scheduled either during or after regular school hours. Multitudes of professions in the hospital allow widespread opportunities for each student.

Various programs set up by specialized high schools work with the trainable retarded. Disabilities of individual students determine which school the students attend.

Work release programs are another form of specialized training. Areas included are vocational, agriculture, and industrial arts. The main thrust is toward teaching responsibilities in work habits. The final goal of the program is not a skilled profession, but rather basic exposure to employer/employee relationships and good work habits.

It should be noted that some of the cooperative programs claimed by the comprehensive high schools are with the area vocational technical schools and do not represent new cooperative efforts sought by the high school. Therefore, the figures for this part of the survey are not as firmly established as was the case with the other six kinds of institutions examined.

IX

THE SENIOR COLLEGES AND UNIVERSITIES

The state-related universities were contacted, which included Lincoln University, 19 campuses of The Pennsylvania State University, the University Center at Harrisburg, two campuses of Temple University, and five campuses of the University of Pittsburgh. A total of 30 campuses were mailed questionnaires, from which 15 responses were received.

Fourteen state-owned institutions of higher education (i.e., state colleges) were also sent questionnaires and responses were obtained from seven.

The subgroup of public institutions of higher education were those classified as state-aided colleges and universities. Thirteen colleges were included and responses were obtained from only three.

The findings relative to cooperation and facility sharing among these institutions (all of which are listed in Appendix J) are described in the following paragraphs.

King's College of Wilkes-Barre indicated that they were cooperating with college misericordia, in which all major programs in the curricula of both institutions are accessible for cross registration on a space available basis. It was indicated that this cooperative understanding was initiated in 1969. The sharing includes

classrooms and laboratories. At the present time, 21 students from college misericordia are currently cross-registered at King's College, from college misericordia's total student population of 1,000. Admissions criteria include high school diploma and certain aptitude or achievement tests. In addition to this, both colleges are exploring the feasibility of cooperative support of certain modes of special education preparation for the respective student bodies. Each of the institutions awards credit and degrees to its own matriculated students for course work, and major program work in the cooperating institution. Grades are directly transferred to the record of the student.

The Wilkes-Barre Campus of The Pennsylvania State University indicated that they were offering a ten-week drafting seminar for local high schools. The enrollment included 27 students during the 1973-74 academic year. Facilities shared for this offering include classrooms. The admissions criteria include one seminar of drafting.

A cooperative venture between Clarion State College (Venango Campus) and several hospitals (Oil City Hospital and Franklin Hospital) is currently underway. This involves the nursing program with a current enrollment of 53. A clinical laboratory facility is shared in this program. Admissions criteria include high school diploma, certain aptitude or achievement tests, and a personality profile test. The joint program involves nursing faculty of seven from the hospitals and state college. This is an associate degree nursing program which uses the cooperating hospitals for learning experiences and for study.

The medical technology program at the Mansfield State College is cooperating with two hospitals (Robert Packer Hospital and Williamsport

Hospital) with a total enrollment of 12 to 15 students. This program was initiated by Mansfield State College in 1970 and facilities that are shared include a work practicum/clinical year in the hospitals. Admissions criteria include high school diploma and aptitude or achievement tests. Mansfield also is in the planning stages of establishing a cooperative venture with the Robert Packer Hospital for a joint X-Ray technology program.

A number of cooperative ventures are being conducted by the University of Pittsburgh at Greensburg. Three efforts indicated include: the library is open to students at Seton Hall College as well as their own, which involves a total of 1800 students; also cross-registration with 65 students from Seton Hall is underway; and there is a limited cross-registration, presently with only five students, with Westmoreland County Community College. The limited cross-registration was initiated by the University of Pittsburgh at Greensburg in 1973. The arrangements for cross-registration between Seton Hill and Pitt evolved over the past several years by frequent communication between the two institutions. Both classrooms and laboratories are shared in these ventures. Admissions criteria include high school diploma and certain aptitude and achievement tests. Three instructional personnel are involved in a limited cross-registration process, while a total of 10 instructional personnel assist in the cross-registration activities of the two colleges.

The Behrend Campus of The Pennsylvania State University is conducting a diploma nursing program in cooperation with the Hamot Medical Center in the Erie area. Present enrollment is approximately 55 adjunct students. Admissions requirements include high school

diploma, certain aptitude or achievement tests, and the National League of Nursing Examination. About ten instructional personnel are involved in this joint program. Degree credit is awarded for the program if the student is admitted to The Pennsylvania State University as a degree candidate.

The Berks Campus of The Pennsylvania State University is offering an associate degree program entitled Administration of Justice in cooperation with Lebanon Valley College. Present enrollment in this venture is approximately 25. Sharing includes classrooms and faculty. Admissions criteria include high school diploma, and certain aptitude or achievement tests. Instructional personnel involved in this joint program include one specialist and two general education instructors.

The above indicate the limitations of cooperative ventures in facility sharing in vocational kinds of programs in the institutions categorized as public higher education institutions in the Commonwealth, based upon the responses obtained in the survey described in this report.

Private Institutions of Higher Education

Questionnaires were sent to 52 private institutions of higher education in the Commonwealth (see Appendix I), of which 34 responded. The extent and kind of cooperation and facility planning in vocational type programs are indicated in the following paragraph.

The Robert Morris College of Coraopolis, Pennsylvania, is cooperating with Duquesne University for a business teacher education program, which involves 25 students; and also is cooperating with Sewickley Valley Hospital for a nursing education program, which

involves 45 students. The business teacher education program was initiated in 1968 by Duquesne University and the nursing program was initiated jointly by the college and the hospital in 1969. Classrooms, faculties, and laboratories are involved in these joint efforts. Admissions criteria include high school diploma, aptitude or certain aptitude achievement test, and a nursing aptitude test. Instructional personnel involved in these programs include five for the business teacher education program and the staff for both institutions for the nursing education program. Degrees are awarded for these efforts by Duquesne University for the business teacher education program and Robert Morris College for the nursing education program.

The Washington and Jefferson College (Washington, Pennsylvania) offers a joint program in medical technology in cooperation with two hospitals (Washington Hospital and West Penn Hospital). The project was instituted by the Washington and Jefferson College in 1972. Admissions criteria include high school diploma, and aptitude or achievement test. Also, this college has in the planning stage a joint program in nursing in cooperation with the Washington Hospital School of Nursing. The preceding cooperative program is a degree granting program, awarded by the Washington and Jefferson College.

The LaRoche College (Pittsburgh, Pennsylvania) offers a program entitled "Art and Design" in cooperation with the Art Institute of Pittsburgh. Enrollment in the academic year 1973-74 was 130. This program was initiated by LaRoche College in 1970. Admissions criteria include high school diploma. The number of instructional personnel involved in the joint program include seven instructors. The program awards an associate degree by the LaRoche College. The faculty is provided by Art Institute of Pittsburgh for this program.

The Juniata College (Huntingdon, Pennsylvania) offers a number of joint programs with other institutions. A medical technological program, in cooperation with the Abington Memorial Hospital and Altoona Hospital School of Medical Technology, had a 1973-74 enrollment of 21 students. The other cooperative programs listed appear to be non-vocational (i.e., professional) type programs and therefore are not listed here. Admissions criteria include high school diploma, and aptitude or achievement test. The program is a degree awarding one, which is granted by Juniata College after successful completion of the program.

It was found that many of the independent institutions of higher education in the Commonwealth are involved in various kinds of consortia with one another, but the vast majority of these do not include vocational program offerings as defined herein.

X

CONCLUSIONS AND RECOMMENDATIONS

Cooperative ventures in vocational education in Pennsylvania are already in progress. The state-wide survey briefly described here points to the extent to which various kinds of vocational institutions are interacting in the interest of providing more and better vocational education for a larger number of the state's residents. Institutions that have sought and established the cooperative ventures described herein should be commended for expending the additional effort required to bring such programs to fruition. Furthermore, success in these efforts to date is proof that institutions of different types can get together for the purpose of designing vocational programs on a cooperative basis. In addition, an examination of the present "state of the art" proves that such cooperative arrangements can be made for virtually any kind of vocational program at either the high school or post-secondary level.

Since it is believed that such efforts can produce good vocational programs by cooperating institutions, we ought to consider ways to encourage further cooperation of this type. This seems particularly important because the demand for the various kinds of vocational education listed earlier is rising while the level of funding for education as a whole may have stabilized. The great many vocational institutions in Pennsylvania together have a potential to serve more people than they are at this time. Many of the schools in each of the

six types surveyed are not operating at maximum enrollment. It is therefore important, in the interest of optimum utilization of existing facilities-institutions-faculty, to consider ways of coupling students having vocational program needs with the school that would best serve them.

To attempt such a coordinative effort on a state-wide basis immediately can be a feasible response to this demand only if a regional approach is considered. A practical approach is to earmark the existing community college districts as the initial cooperative regions. This has a number of advantages. The majority of Pennsylvanians are located in the existing community college regions, as are most of the potential cooperating institutions. A cooperative vocational education regional council can be established for each of the community college regions. In view of the fact the area vocational technical schools and community colleges have already made considerable progress in establishing cooperative programs, these institutions ought to be the very core of the council. Representation on the council would include key administrators from the community college, the area vocational technical schools located in that region, and one person from each of the other institutional types described herein. This group should have a salaried executive secretary and quickly establish a "program of work" for itself. Such a council provides an ongoing mechanism to work on planning new cooperative programs as well as improving existing cooperative efforts.

In conclusion, Pennsylvania is fortunate in having an existing multiple vocational education delivery system, and this appears to be a good time to maximize the utilization of all of them for providing vocational education for more Pennsylvanians.

APPENDIX A

Cover Letter

November 5, 1973

Dear AVTS Director:

As you may know, the Fifth Annual Pennsylvania Conference on Post-Secondary Occupational Education was held about a month ago. The major theme of that event dealt with cooperation and coordination between secondary and post-secondary vocational institutions in the Commonwealth. It was decided to make inquiries of the many educational institutions in the Commonwealth as to the kinds of cooperative efforts relative to vocational programs and students in which they may be involved.

Enclosed is a short questionnaire, the results of which will provide us with the kind of information we would need so as to complete this assessment on a statewide basis. Would you be kind enough to take the few minutes to respond? When the study is completed, we will share the results with you, as we have done with other research-survey efforts in the past. You may rest assured that you and your school will be provided with complete privacy in the publishing of the results.

Thanks again for your invaluable assistance. Best wishes.

Sincerely,

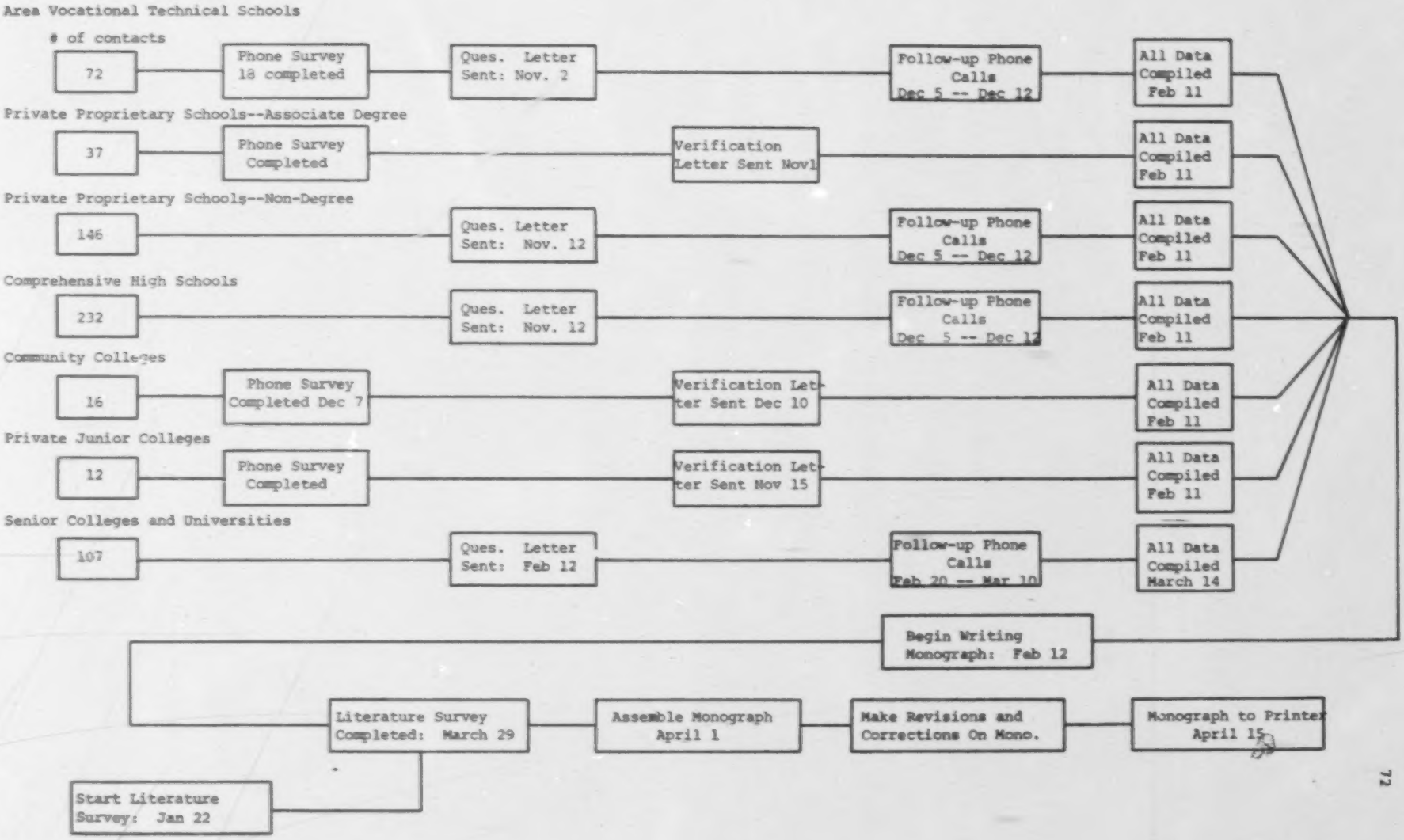
Angelo C. Gillie, Sr.
Professor and Chairman
Graduate Studies and Research

ACG/rzm

Enclosures

APPENDIX B

Flow Diagram of the Study


Area Vocational Technical Schools
# of contacts
72
Phone Survey 18 completed
Ques. Letter Sent: Nov. 2
Follow-up Phone Calls Dec 5 -- Dec 12
All Data Compiled Feb 11
Private Proprietary Schools--Associate Degree
37
Phone Survey Completed
Verification Letter Sent Nov1
All Data Compiled Feb 11
Private Proprietary Schools--Non-Degree
146
Ques. Letter Sent: Nov. 12
Follow-up Phone Calls Dec 5 -- Dec 12
All Data Compiled Feb 11
Comprehensive High Schools
232
Ques. Letter Sent: Nov. 12
Follow-up Phone Calls Dec 5 -- Dec 12
All Data Compiled Feb 11
Community Colleges
16
Phone Survey Completed Dec 7
Verification Letter Sent Dec 10
All Data Compiled Feb 11
Private Junior Colleges
12
Phone Survey Completed
Verification Letter Sent Nov 15
All Data Compiled Feb 11
Senior Colleges and Universities
107
Ques. Letter Sent: Feb 12
Follow-up Phone Calls Feb 20 -- Mar 10
All Data Compiled March 14
Begin Writing Monograph: Feb 12
Literature Survey Completed: March 29
Assemble Monograph April 1
Make Revisions and Corrections On Mono.
Monograph to Printer April 15
Start Literature Survey: Jan 22

APPENDIX C

The Questionnaire

Questionnaire on Joint Programs and Faculty Sharing
Among Proprietary Schools, Community Colleges, Area Vocational
Technical Schools and Other Educational Institutions

1. Institution: _____

   Address: _____

   Telephone Number: _____

2. Chief Administrative Officer: _____
   Name Title

2a. Respondent (if different): _____
   Name Title

3. Do you have any joint programs with other institutions? Yes___ No___

4. If yes, please complete the following:

Program	Cooperating Institution	Enrollment

5. Which institution initiated each of the projects (If joint venture, please indicate)

Institution	Program	Year

6. What facilities are shared? Check the appropriate ones.

_____ (a) Classroom

_____ (b) Laboratories-Shops

_____ (c) Assembly Areas

_____ (d) Work Practicum/Internship

7. Admissions criteria used:

   High School Diploma: Yes_____ No_____

   Aptitude or Achievement Tests: Yes_____ No_____

   Other tests: Yes_____ No_____ Please specify:_____

8. Number of instructional personnel involved in each joint program:

Joint Program	Number

9. Do you currently have any programs in the planning stages?
   Yes_____ No_____ Please indicate programs and institutions.

Joint Program	Cooperating Institution

10. Do your graduates receive credit toward the associate degree or the baccalaureate degree for joint programs completed in your institution? Yes_____ No_____

Credit Awarded by	Joint Program

11. Additional Comments

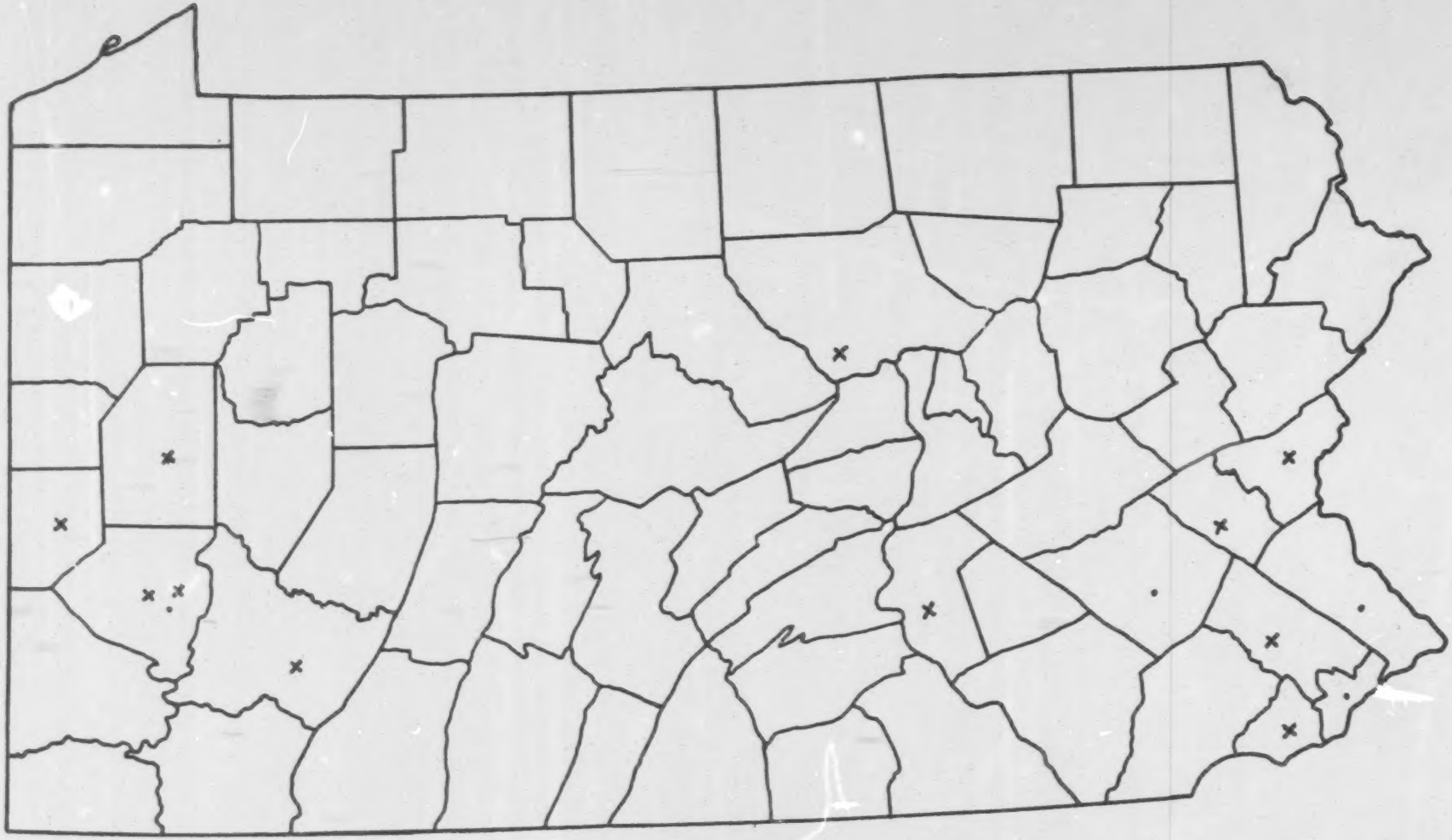
APPENDIX D

The Community Colleges in Pennsylvania

College	Location
Bucks County Community College	Newton
Butler County Community College	Butler
Community College of Allegheny County, Allegheny Campus	Pittsburgh
Community College of Allegheny County, Boyce Campus	Monroeville
Community College of Allegheny County, North Campus	Pittsburgh
Community College of Beaver County	Monaca
Community College of Delaware County	Media
Community College of Philadelphia	Philadelphia
Harrisburg Area Community College	Harrisburg
Lehigh County Community College	Schnecksville
Luzerne County Community College	Wilkes-Barre
Montgomery County Community College	Blue Bell
Northampton County Area Community College	Bethlehem
Reading Area Community College	Reading
Westmoreland County Community College	Youngwood
Williamsport Area Community College	Williamsport
Community College of Allegheny County, South Campus	Mifflin

APPENDIX D

Public Community Colleges in Pennsylvania



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APPENDIX E

The Area Vocational Technical Schools in Pennsylvania

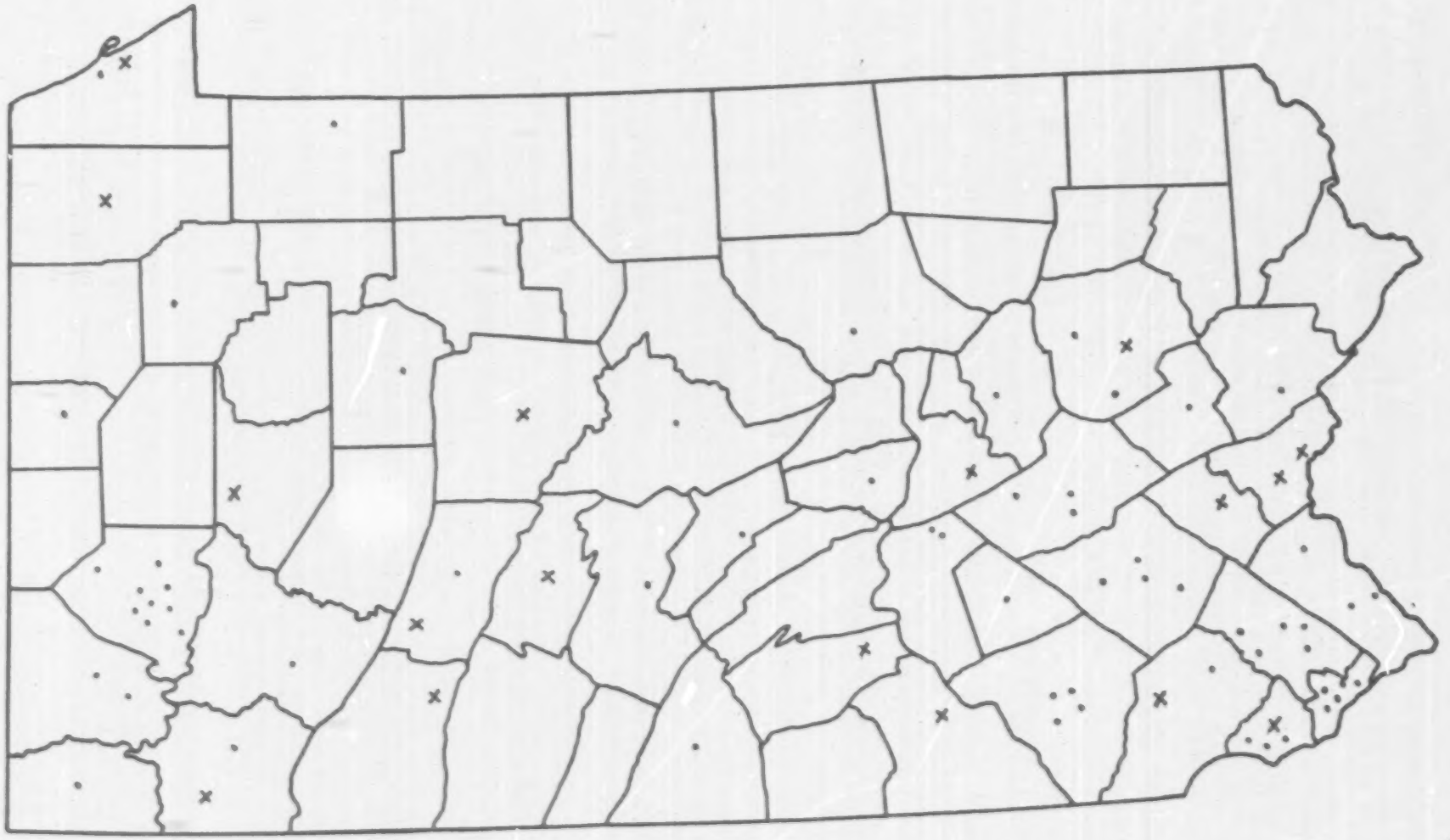
Name of School	Location
Admiral Peary	Ebensburg
Altoona	Altoona
A. W. Beattie	Pittsburgh
Berks	Reading
Berks - East	Oley
Berks - West	Leesport
Bethlehem	Bethlehem
Bucks County	Fairless Hills
Carbon County	Jim Thorpe
Central Chester County	Coatesville
Central Montgomery County	Norristown
Centre County	Pleasant Gap
Clearfield County	Clearfield
Columbia-Montour	Bloomsburg
Crawford County	Meadville
Cumberland-Perry	Mechanicsburg
Dauphin County	Harrisburg
Delaware County	Media
Delaware County - (Aston)	Chester
Delaware County - (Folcroft)	Folcroft
Delaware County - (Marple)	Broomall
Eastern Northampton County	Easton
Eastern Westmoreland County	Latrobe
Erie City	Erie
Erie County	Erie
Fayette County	Uniontown
Franklin County	Chambersburg
Greater Johnstown	Johnstown
Greene County	Waynesburg
Harrisburg-Steelton-Highspire	Harrisburg
Hazleton	Hazleton
Huntingdon County	Mill Creek
Jefferson-DuBois	Reynoldsville

Name of School	Location
Juniata-Mifflin County	Lewistown
Lancaster County	Willow Street
Lancaster County	Brownstown
Lancaster County	Mt. Joy
Lancaster County	Willow Street
Lawrence County	New Castle
Lebanon County	Lebanon
Lehigh County	Schnecksville
Lenape	Ford City
McKeesport	McKeesport
Middle Bucks	Jamison
Monroe County	Bartonsville
Mon Valley	Charleroi
Montgomery County	Blue Bell
Eastern Montgomery	Willow Grove
North Montco	Lansdale
Western Montgomery	Limerick
Northern Chester County	Phoenixville
North Fayette County	Connellsville
Northumberland County	Shamokin
Parkway West	Oakdale
Philadelphia	Philadelphia
Bok	Philadelphia
Dobbins	Philadelphia
Masbaum	Philadelphia
Walter Biddle Saul	Philadelphia
Pittsburgh	Pittsburgh
Allegheny	Pittsburgh
Connelley	Pittsburgh
South	Pittsburgh
Washington	Pittsburgh
Reading-Muhlenberg	Reading
Schuylkill County	Pottsville

Name of School	Location
Schuylkill County	Frackville
Schuylkill County	Mar Lin
Somerset County	Somerset
Steel Valley	West Mifflin
SUN	New Berlin
Upper Bucks County	Perkasie
Venango County	Oil City
Warren County	Warren
Western Area	Canonsburg
West Side	Kingston
Wilkes-Barre	Wilkes-Barre
Williamsport	Williamsport
York County	York

APPENDIX E

The Area Vocational Technical Schools in Pennsylvania



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APPENDIX F

The Associate Degree Granting Proprietary Schools
in Pennsylvania

Name of School	Location
Allentown Business School	Allentown
Altoona School of Commerce	Altoona
Art Institute of Pittsburgh	Pittsburgh
Bethlehem Business School	Bethlehem
Cambria-Rowe Business College	Johnstown
Central Pennsylvania Business School	Summerdale
Churchman Business College	Easton
Computer Systems Institute, Inc.	Pittsburgh
Dean Institute of Technology, Inc.	Pittsburgh
DuBois Business College	DuBois
Duff's Business Institute	Pittsburgh
Electronic Institutes, Inc.	Harrisburg
Electronic Institutes	Pittsburgh
Erie Business Center, Inc.	Erie
Gateway Technical Institute, Inc.	Pittsburgh
Industrial Management Institute	Reading
Institute of Computer Management	Pittsburgh
Institute of Computer Sciences of Philadelphia, Inc.	Philadelphia
Keystone Secretarial and Business Administration School	Swarthmore
Levitan School, Inc. (The)	Philadelphia
McCann School of Business	Mahanoy City
New Castle Business College	New Castle
New Kensington Commercial School	New Kensington
Penn Technical Institute	Pittsburgh
Philadelphia School of Office Training	Philadelphia
Philco-Ford Technical Institute, Inc.	Philadelphia
Pittsburgh Institute of Aeronautics	Pittsburgh
Pittsburgh Technical Institute	Pittsburgh
Ryder Technical Institute	Allentown
Ryder Technical Institute	Philadelphia

Name of School	Location
Thompson Institute	Harrisburg
Thompson School of Business and Technology	York
Vale Technical Institute, Inc.	Blairsville
Wheeler School, (The)	Pittsburgh
Wilkes-Barre Business College	Wilkes-Barre
Williamson Free School of Mechanical Trades	Media
Williamsport School of Commerce	Williamsport

APPENDIX F

Proprietary Schools (Degree Granting) in Pennsylvania

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APPENDIX G

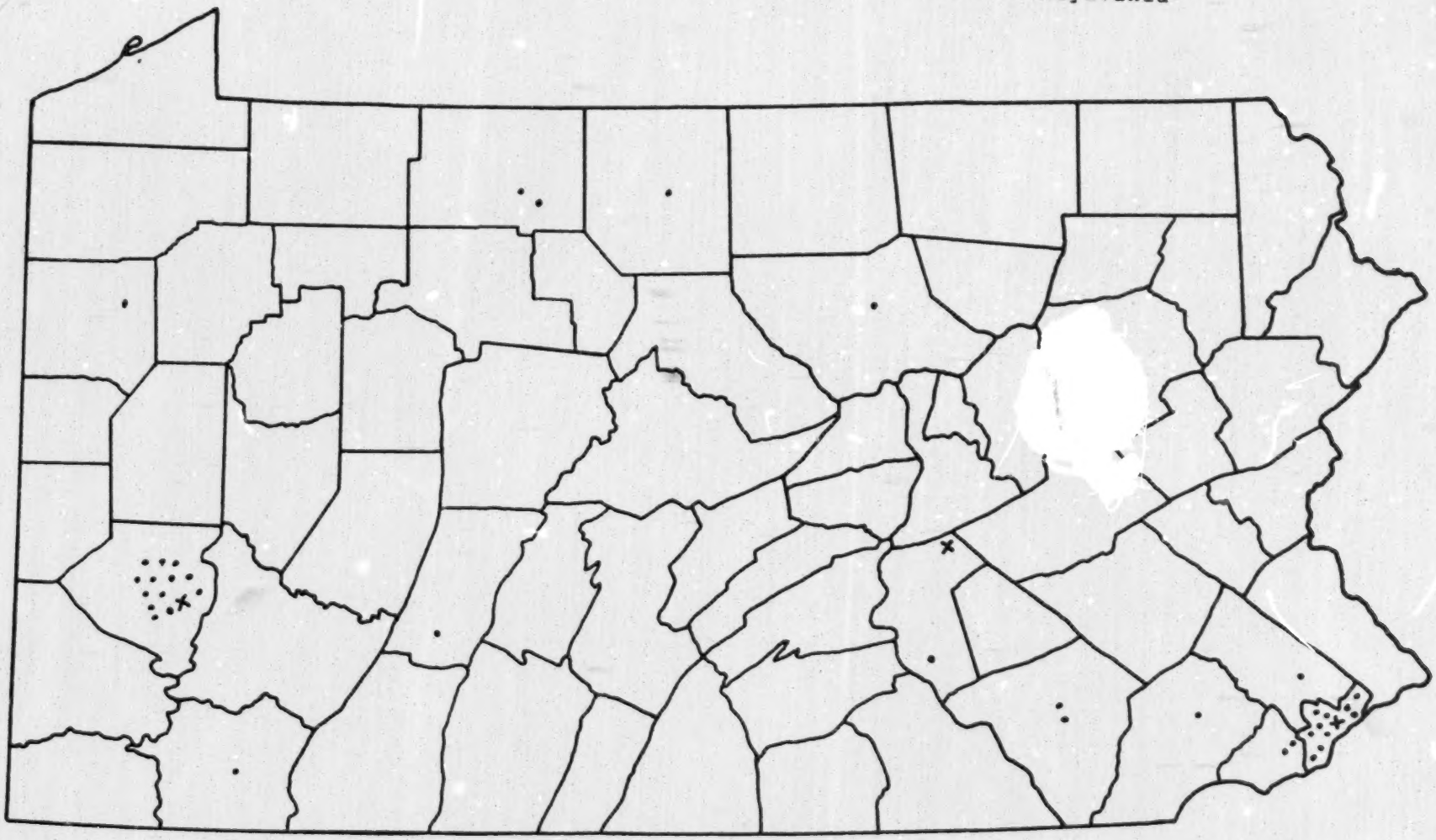
The Non-Degree Granting Proprietary Schools in Pennsylvania

Name of School	Location
Andrews Institute of Broadcasting	Pittsburgh
Carpet Installation School	Pittsburgh
Fashion Academy of Pittsburgh	Pittsburgh
Ivy School of Professional Art	Pittsburgh
Median School	Pittsburgh
Opticians Institute	Pittsburgh
Pennsylvania Institute	Pittsburgh
Pittsburgh Institute of Mortuary Science, Inc.	Pittsburgh
Rosedale Technical Institute	Pittsburgh
Triangle School of Drafting	Pittsburgh
Pennsylvania Rehabilitation Center	Johnstown
PMTA Truck Driver School	Middletown
Pennsylvania Institute of Technology	Upper Darby
R.E.T.S. Electronic Schools	Upper Darby
A.T.E.S. Technical School	Erie
Fayette Institute of Commerce and Technology	Uniontown
Bowman Technical School	Lancaster
Modern Heat Council	Lancaster
Breeden School of Welding	Whitehall
Institute of Broadcast Arts	Sharon
American Chick Sexing School	Lansdale
American Academy of Broadcasting	Philadelphia
American Institute of Drafting, Inc.	Philadelphia
Antonelli School of Photography	Philadelphia
Art Institute of Philadelphia	Philadelphia
Craft School of Tailoring	Philadelphia
Delaware Valley Academy of Medical and Dental Assistance	Philadelphia
National School of Health Technology	Philadelphia
Pittsburgh Technical Institute	Pittsburgh

Name of School	Location
Control Data Institute	Pittsburgh
School of Computer Technology	Pittsburgh
T.R.I. Business School	Pittsburgh
Garfield Business Institute	Beaver Falls
Thompson Institute	Harrisburg
Sleeper's Business College	Chester
The Williamsport Hospital School of Medical Transcription	Williamsport
Shen[illegible]go Valley Commerical Institute, Inc.	Sharon
[illegible]emy of Advanced Traffic	Philadelphia
Center for Innovative Training and Education	Philadelphia
Franklin School of Science and Arts, Inc.	Philadelphia
The Gross C.P.A. Course, Inc.	Philadelphia

APPENDIX G

The Non-Degree Granting Proprietary Schools in Pennsylvania



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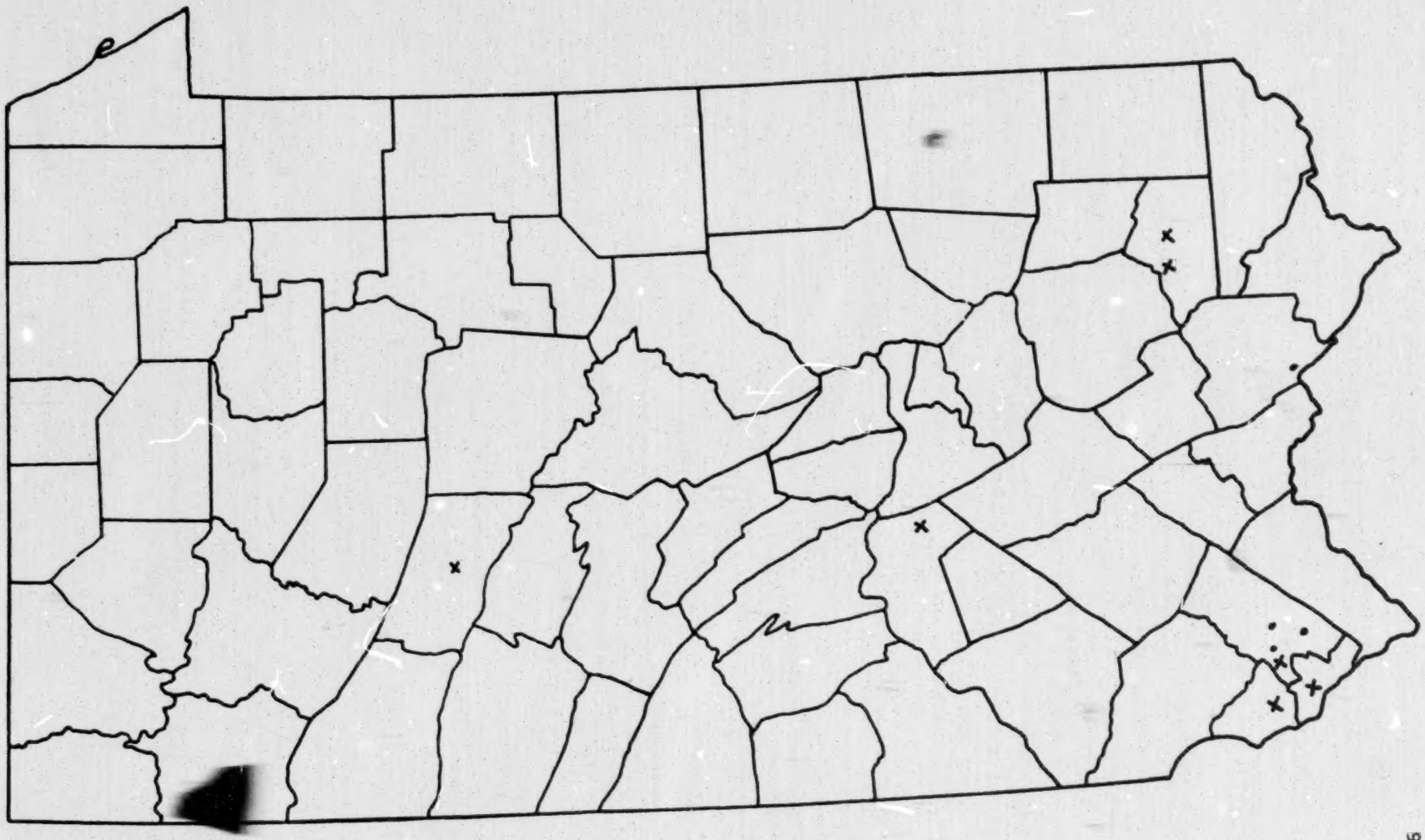
APPENDIX H

The Private Junior Colleges in Pennsylvania

Name of College	Location
Ellen Cushing Junior College	Mawr
Harcum Junior College	Bryn Mawr
Keystone Junior College	LaPlume
Lackawanna Junior College	Scranton
Manor Junior College	Jenkintown
Mt. Aloysius Junior College	Cresson
Northeastern Christian Junior College	Villanova
Pierce Junior College	Philadelphia
United Wesleyan	
Pennsylvania Junior College of Medical Arts	Harrisburg
Pinebrook Junior College	East Stroudsburg
Valley Forge Military Junior College	Wayne

APPENDIX H

The Private Junior Colleges in Pennsylvania



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APPENDIX I

Comprehensive High Schools

Name of School	Location
Mt. Penn JSH	Reading
Boyertown SHS	Boyertown
Brandywine SHS	Topton
Conrad Weiser JSHS	Robesonia
Daniel Boone JSHS	Birdsboro
Exeter Twp. SHS	Reading
Fleetwood HS	Fleetwood
Governor Mifflin SHS	Shillington
Hamburg JSHS	Hamburg
Kutztown SHS	Kutztown
Muhlenberg Twp. SHS	Laureldale
Oley Valley HS	Oley
Reading SHS	Reading
Tulpenhocken Area SHS	Bernville
Twin Valley JSHS	Elverson
Wilson SHS	West Lawn
Wyomissing SHS	Wyomissing
Bensalem Twp.	Cornwells Heights
Bristol Boro	Bristol
Delhaas SHS	Bristol
Wilson SHS	Levittown
William Tennent SHS	Warminster
Central Bucks SHS E.	Buckingham
Central Bucks SHS W.	Doylestown
Council Rock HS	Newtown
Morrisville Boro JSHS	Morrisville
Neshaminy SHS	Langhorne
New Hope-Solebury JSHS	New Hope
Palisades JSHS	Kintnersville
Pennridge SHS	Perkasie
Pennsbury HS	Fairless Hills
Quakertown Community	Quakertown
Jim Thorpe Area	Jim Thorpe

Name of School	Location
Lehighton Area	Lehighton
Palmerton Area SHS	Palmerton
Panther Valley JHS	Coaldale
Weatherly Area JSHS	Weatherly
Avon-Grove	West Grove
Coatesville Area	Coatesville
Downington Area	Downingtown
Great Valley	Devault
Kennett Consolidated	Kennett Square
Octorara Area	Atglen
Owen J. Roberts	Pottstown
Oxford Area	Oxford
Phoenixville Area	Phoenixville
Tredyffrin-Easttown	Berwyn
Unionville-Chadds Ford	Unionville
Henderson SHS	West Chester
Chester	Chester
Chichester	Boothwyn
Collingdale JSHS	Collingdale
Darby Twp. JSHS	Glenolden
Garnet Valley JSHS	Concordville
Haverford Twp. SHS	Havertown
Interboro SHS	Newtown Square
Lansdowne-Aldan JHS	Lansdowne
Marple Newtown SHS	Newtown Square
Sun Valley HS	Aston
Radnor SHS	Radnor
Ridley HS	Folsom
Penncrest SHS	Media
Sharon Hill JSHS	Sharon Hill
Springfield HS	Springfield
Clifton Heights JHS	Clifton Heights
Upper Darby SHS	Upper Darby
Nether Providence HS	Wallingford

Name of School	Location
Swarthmore HS	Swarthmore
Yeadon JSHS	Yeadon
Abington Heights	Clarks Summit
Fell Twp.	Simpson
B. Franklin HS	Carbondale
Dunmore JSHS	Dunmore
Lakeland JSHS	Jermyn
Dickson City	Dickson City
Mid Valley	Olyphant
North Pocono	Moscow
Old Forge	Old Forge
Riverside	Scranton
Technical HS	Scranton
West Scranton HS	Scranton
Valley View	Eynon
Cocalico	Denver
Columbia	Columbia
Conestoga Valley	Lancaster
Donegal	Mount Joy
Garden Spot JSHS	New Holland
Elizabethtown Area JSHS	Elizabethtown
Ephrata Area SHS	Ephrata
Hempfield SHS	Landisville
Lampeter-Strasburg SHS	Lampeter
McCaskey SHS	Lancaster
Manheim Central SHS	Manheim
Manheim Twp. SHS	Lancaster
Penn Manor SHS	Millersville
Pequea Valley	Kinzers
Solanco SHS	Quarryville
Warwick SHS	Lititz
Annville-Cleora	Annville
Cedar Crest SHS	Lebanon
Eastern Lebanon County	Myerstown

Name of School	Location
Lebanon SHS	Lebanon
Northern Lebanon JSHS	Fredericksburg
Palmyra Area JHS	Palmyra
William Allen SHS	Allentown
L. E. Dieruff SHS	Allentown
Catasauqua SHS	Catasauqua
Emmaus SHS	Emmaus
Slatington JSHS	Slatington
Northwestern Lehigh JSHS	New Tripoli
Parkland SHS	Orefield
Salisbury SHS	Allentown
Southern Lehigh SHS	Center Valley
Whitehall HS	Whitehall
Crestwood	Mountaintop
Dallas	Dallas
John S. Fine SHS	Nanticoke
Hanover SHS	Wilkes-Barre
Freeland HS	Freeland
Hazleton HS	Hazleton
West Hazleton JSHS	West Hazleton
Lake-Lehman	Lehman
Northwest JSHS	Shickshinny
Pittston Area SHS	Pittston
James M. Coughlin HS	Wilkes-Barre
G. A. R. Memorial HS	Wilkes-Barre
Elmer L. Meyers HS	Wilkes-Barre
Wilkes-Barre Twp. JSHS	Wilkes-Barre
Wyoming Area SHS	West Pittston
Wyoming Valley West SHS	Kingston
East Stroudsburg JSHS	Stroudsburg
Pleasant Valley JSHS	Brodheadsville
Pocono Mountain JSHS	Swiftwater
Stroudsburg Area JSHS	Stroudsburg

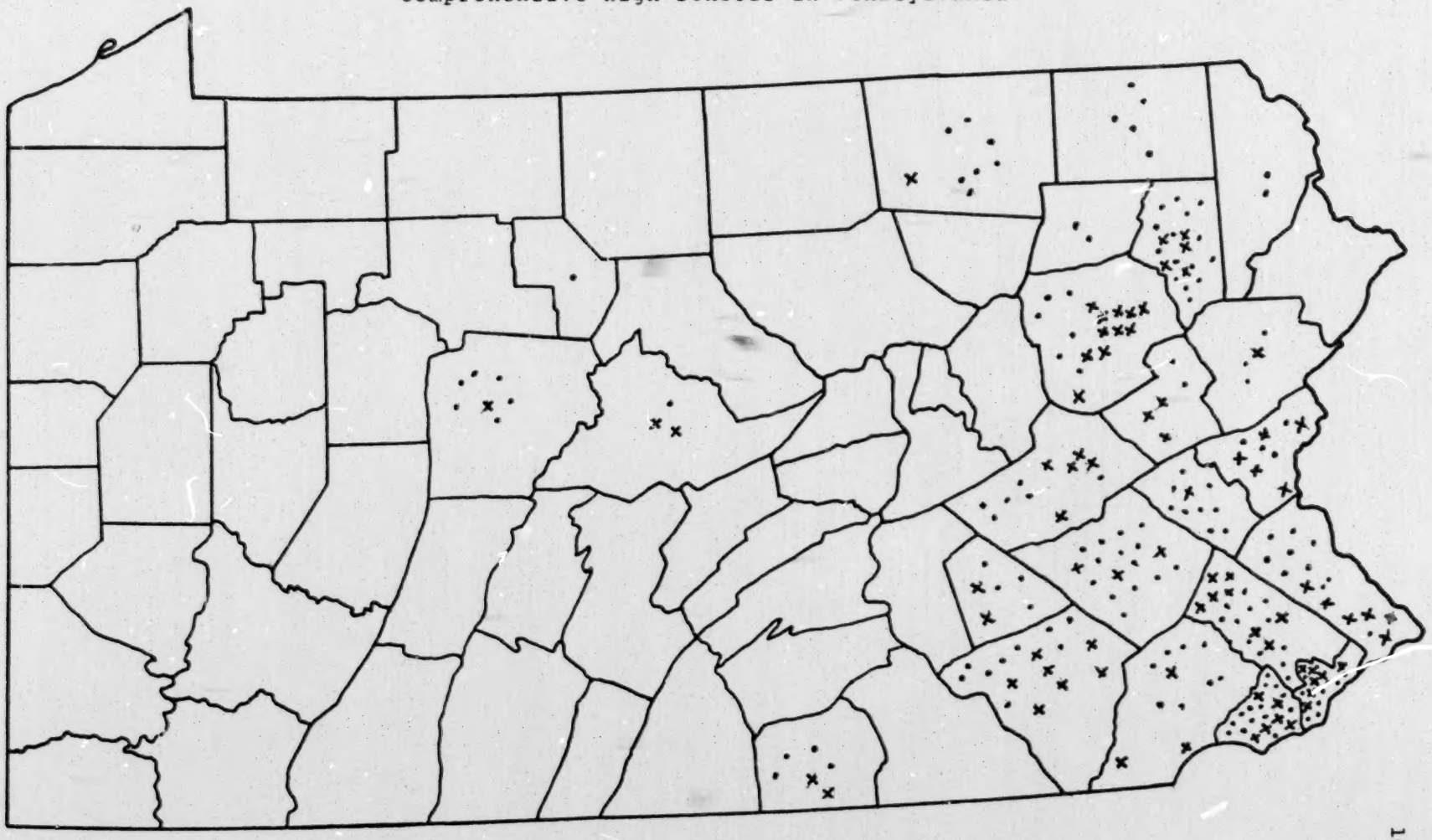
Name of School	Location
Abington South Campus	Abington
Cheltenham Twp. SHS	Wyncote
Plymouth-Whitemarsh SHS	Plymouth Meeting
Hatboro-Horsham SHS	Horsham
Jenkintown JSHS	Jenkintown
Harriton SHS	Rosemont
Lower Moreland SHS	Huntingdon Valley
Lower Moreland Middle	Huntingdon
Methacton SHS	Fairview Village
Eisenhower SHS	Norristown
North Penn SHS	Lansdale
Perkiomen Valley SHS	Collegeville
Pottsgrove JSHS	Pottstown
Pottstown SHS	Pottstown
Souderton SHS	Souderton
Springfield Twp. SHS	Erdenheim
Spring-Ford SHS	Royersford
Upper Dublin SHS	Fort Washington
Upper Merion SHS	King of Prussia
Upper Moreland SHS	Willow Grove
Upper Perkiomen SHS	Pennsburg
Wissahickon SHS	Ambler
Bangor Area SHS	Bangor
Freedom SHS	Bethlehem
Liberty SHS	Bethlehem
Easton Area SHS	Easton
Nazareth Area SHS	Nazareth
Northampton Area SHS	Northampton
Pen Argyl Area JSHS	Pen Argyl
Saucon Valley	Hellertown
Wilson Area JSHS	Easton
J. Bartram	Philadelphia
T. A. Edison	Philadelphia

Name of School	Location
Frankford SHS	Philadelphia
B. Franklin	Philadelphia
Germantown	Philadelphia
S. Gratz	Philadelphia
Kensington	Philadelphia
Abraham Lincoln	Philadelphia
Northeast	Philadelphia
Olney	Philadelphia
Overbrook	Philadelphia
William Penn	Philadelphia
Roxborough	Philadelphia
South Philadelphia	Philadelphia
G. Washington	Philadelphia
W. Philadelphia	Philadelphia
Blue Mountain HS	Schuylkill Haven
Mahanoy Area	Mahanoy City
Minersville Area	Minersville
North Schuylkill	Ashland
Pine Grove JSHS	Pine Grove
Pottsville Area SHS	Pottsville
St. Clair Area HS	St. Clair
Schuylkill Haven Area HS	Schuylkill Haven
Shenandoah Valley JSHS	Shenandoah
Tamaqua Area JSHS	Tamaqua
Tri-Valley JSHS	Valley View
Williams Valley JSHS	Tower City
Blue Ridge	New Milford
Elk Lake	Dimock
Montrose Area	Montrose
Mountain View	Kingsley
Susquehanna JSHS	Susquehanna
Wallenpaupack Area	Honesdale
Waymart	Waymart

Name of School	Location
Lackawanna Trail	Factoryville
Tunkhannock HS	Tunkhannock
Bermudian Springs JSHS	York Springs
New Oxford Area JSHS	Oxford
Fairfield Area JSHS	Fairfield
Gettysburg SHS	Gettysburg
Littletown JSHS	Littletown
Biglerville JSHS	Biglerville
Athens Area JSHS	Athens
S. R. U. JSHS	East Smithfield
Canton JSHS	Canton
Northeast Bradford JSHS	Rome
Sayre JSHS	Sayre
Towanda SHS	Towanda
Troy Area	Troy
Wyalusing Area	Wyalusing
Cameron County JHS	Emporium
Bald Eagle JSHS	Wingate
Bellefonte SHS	Bellefonte
State College SHS	State College
Clearfield	Clearfield
Curwensville	Curwensville
Glendale	Coalport
Harmony	Westover
Moshannon Valley	Houtzdale
Phillipsburg	Philipsburg
West Branch JSHS	Morrisdale
Scranton	Scranton

APPENDIX I

Comprehensive High Schools in Pennsylvania



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APPENDIX J

The Senior Colleges and Universities in Pennsylvania

Institution	Location
Lincoln University	Lincoln University
Pennsylvania State University	
Campus Centers	
Allentown	Allentown
Altoona	Altoona
Beaver	Monaca
Behrend	Erie
Berks	Reading
Capitol	Middletown
Delaware	Media
DuBois	DuBois
Fayette	Uniontown
Hazleton	Hazleton
King of Prussia	King of Prussia
McKeesport	McKeesport
Mont Alto	Mont Alto
New Kensington	New Kensington
Ogontz	Abington
Schuylkill	Schuylkill
Scranton	Dunmore
Shenango Valley	Sharon
University Center	Harrisburg
Wilkes-Barre	Wilkes-Barre
York	York
Temple University	Philadelphia
Temple Campus Centers	
Ambler	Ambler
University Center	Harrisburg
University of Pittsburgh	Pittsburgh
University of Pittsburgh Campus Centers	
Bradford	Bradford
Greensburg	Greensburg
Johnstown Center	Johnstown
Titusville	Titusville

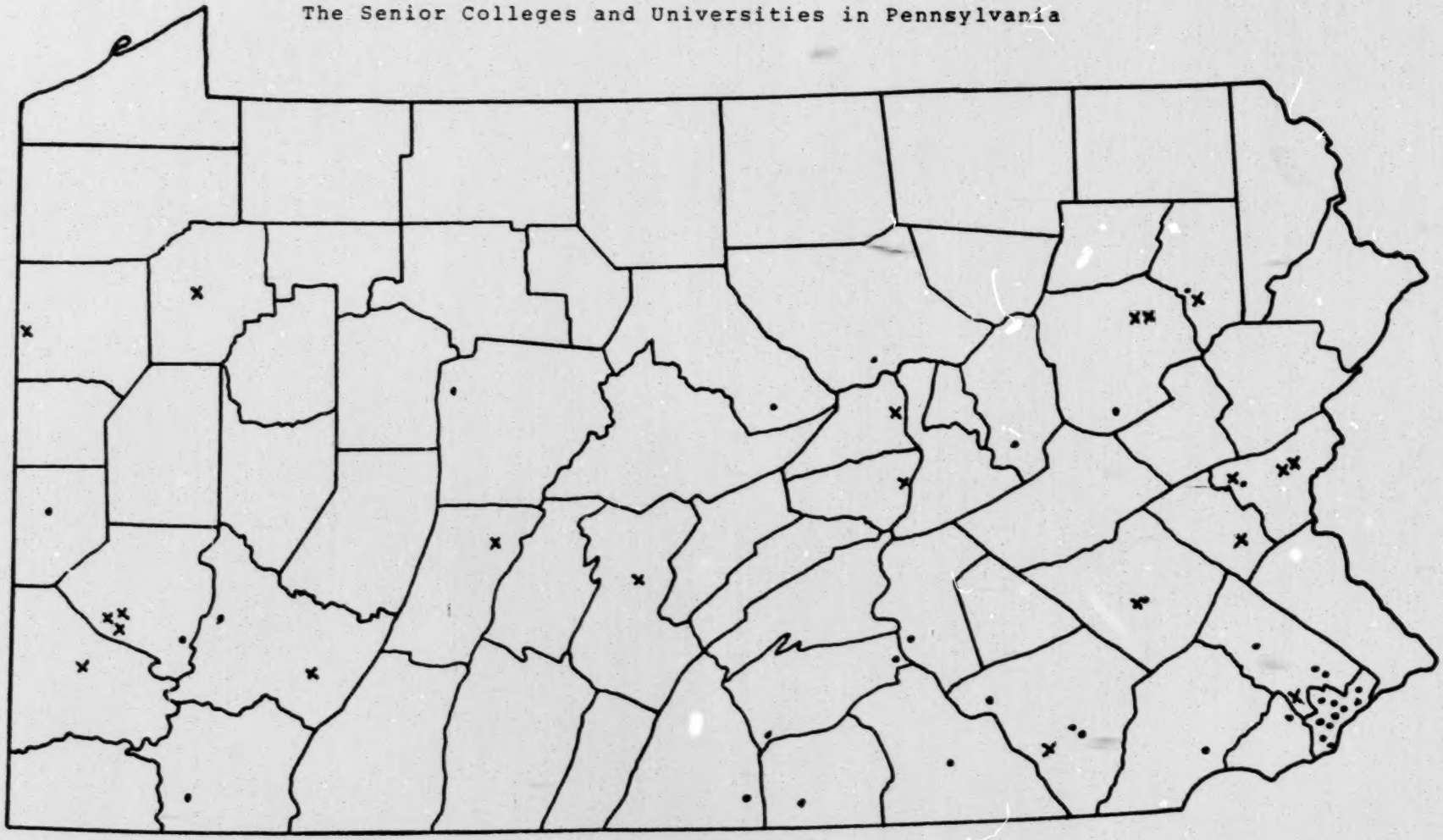
Institution	Location
Bloomsburg State College	Bloomsburg
California State College	California
Cheyney State College	Cheyney
Clarion State College	Clarion
East Stroudsburg State College	East Stroudsburg
Edinboro State College	Edinboro
Indiana University of Pennsylvania	Indiana
Kutztown State College	Kutztown
Lock Haven State College	Lock Haven
Mansfield State College	Mansfield
Millersville State College	Millersville
Shippensburg State College	Shippensburg
Slippery Rock State College	Slippery Rock
West Chester State College	West Chester
Delaware Valley College of Science and Agriculture	Doylestown
Drexel University	Philadelphia
Hahnemanic Medical College and Hospital	Philadelphia
Medical College of Philadelphia	Philadelphia
Pennsylvania College of Optometry	Philadelphia
Pennsylvania College of Podiatric Medicine	Philadelphia
Philadelphia College of Art	Philadelphia
Philadelphia College of Osteopathic Medicine	Philadelphia
Philadelphia College of Textiles and Science	Philadelphia
Philadelphia Muscial Academy	Philadelphia
Thomas Jefferson University	Philadelphia
University of Pennsylvania	Philadelphia
Campus Center	Harrisburg
Academy of the New Church The College and Theological School	Bryn Athyn

Institution	Location
Alvernia College	Reading
Beaver College	Glenside
Bryn Mawr College	Bryn Mawr
Bucknell University	Lewisburg
Carlow College	Pittsburgh
Carnegie-Mellon University	Pittsburgh
Cedar Crest College	Allentown
Christ the Savior Seminary	Johnstown
Combs College of Music	Philadelphia
Dickinson College	Carlisle
Duquesne University	Pittsburgh
Eastern Baptist Theological Seminary	Philadelphia
Elizabethtown College	Elizabethtown
Evangelical Congregational School of Theology	Myerstown
Geneva College	Beaver Falls
Gettysburg College	Gettysburg
Gratz College	Philadelphia
Haverford College	Haverford
Juniata College	Huntingdon
Kings College	Wilke s-Barre
Lancaster Theological Seminary	Lancaster
La Roche College	Allison Park
La Salle College	Philadelphia
Lehigh University	Bethlehem
Lutheran Theological Seminary at Philadelphia	Philadelphia
Lycoming College	Williamsport
Mary Inmaculate Seminary and College	Northampton
Messiah College	Grantham
Moore College of Art	Philadelphia
Morsvian College and Seminary	Bethlehem
Muhlenberg College	Allentown
Our Lady of Angels College	Glen Riddle

Institution	Location
Philadelphia College of Pharmacy and Science	Philadelphia
Pittsburgh Theological Seminary	Pittsburgh
Point Park College	Pittsburgh
Performed Presbyterian Theological Seminary	Pittsburgh
Robert Morris College	Pittsburgh
St. Francis Seminary	Loretto
St. Joseph's College	Philadelphia
St. Vincent College	Latrobe
Spring Garden College	Philadelphia
Susquehanna University	Selinsgrove
University of Scranton	Scranton
Ursinis College	Collegeville
Villa Maria College	Erie
Villanova University	Villanova
Washington and Jefferson College	Washington
Westminster Theological Seminary	Philadelphia
Widener College	Chester
Wilkes College	Wilkes-Barre
Philadelphia College of Textiles and Science	Philadelphia

APPENDIX J

The Senior Colleges and Universities in Pennsylvania



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APPENDIX K

Cooperating Education Institutions in Pennsylvania

Institutions

Community Colleges

Allegh. A.
Allegh. N.
Allegh. S.
CC of Beaver
CC of Delaware
Harrisburg
Lehigh
Luzerne
Montgomery
Northumberland
Westmoreland
Williamsport
Butler

Proprietary Schools

Art Institute of Pittsburgh
Pittsburgh Institute of Aeronautics
The Williamson School

Private Junior Colleges

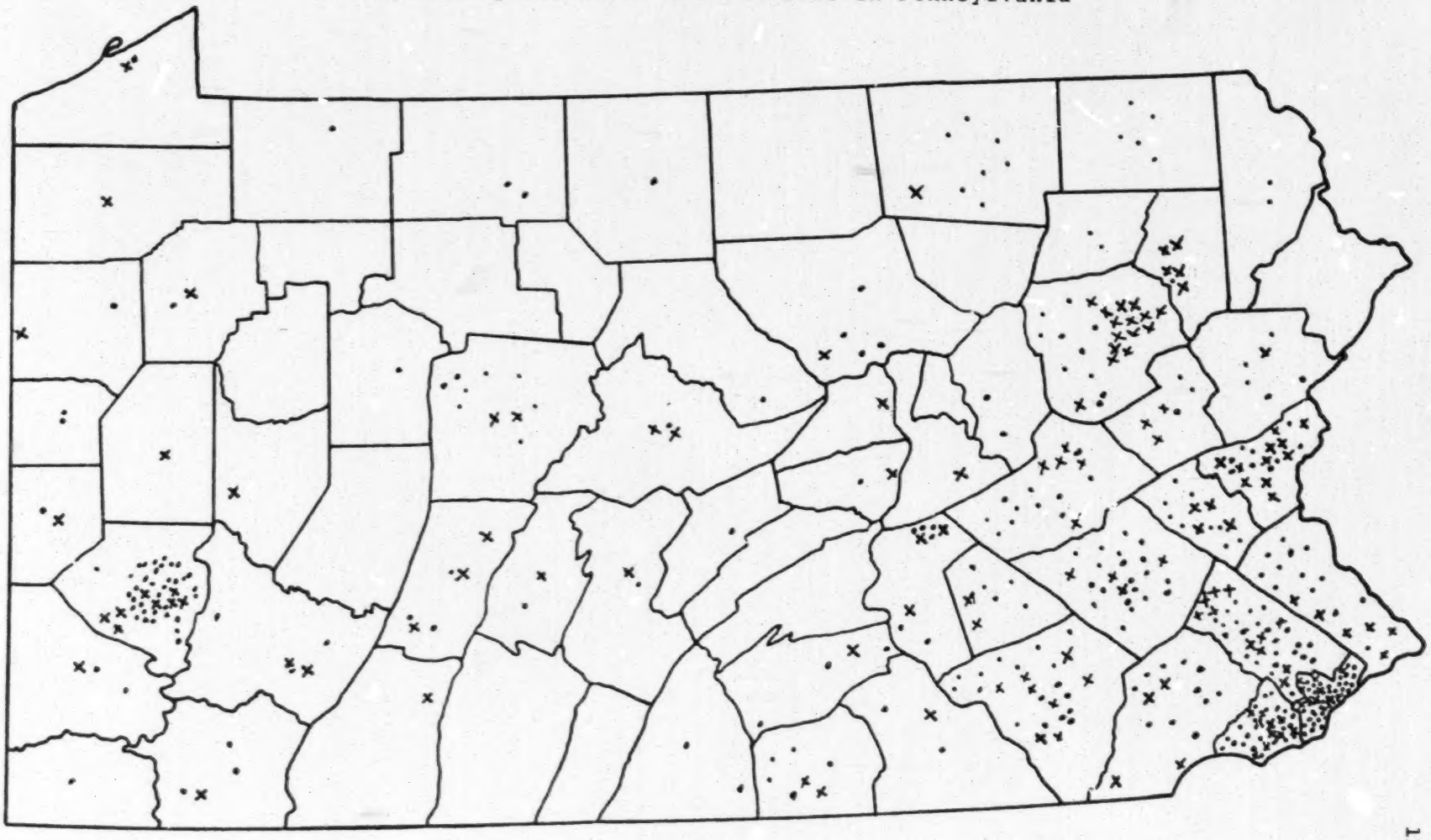
Harcum
Keystone
Lackawanna
Mount Aloysius
Pierce
Penna. Jun. Coll. of Medical Arts
Valley Forge Military Academy
United Wesleyan

Private (Non-Degree) Trade and Business Schools

Franklin School of Science & Arts
Pittsburgh Technical Institute
Thompson Institute

APPENDIX K

Cooperating Education Institutions in Pennsylvania



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